G 1(17)

PUNJAB CIVIL SECRETARIAT
Dated..........
LIBRARY LAHORE.

PUBLIC WORKS DEPARTMENT
MADRAS PRESIDENCY

ADMINISTRATION REPORT

FOR THE YEAR 1944-45

PART II—IRRIGATION

14805

(*Not to be sent up to Simla*)
PUNJAB CIVIL SECRETARIAT
LIBRARY COPY
(To be returned to the Library when done with)

G-1(17)
1946
14805

PRINTED BY THE SUPERINTENDENT
GOVERNMENT PRESS
MADRAS
1946

Price, 1 *rupee* 12 *annas*

PUNJAB CIVIL SECRETARIAT
LIBRARY LAHORE.
G1(17)

TABLE OF CONTENTS

CHAPTER I.

CHAPTER II.

CHAPTER III.

CHAPTER IV.

IMPORTANT WORKS CARRIED OUT DURING THE YEAR 1944–45.

I. Irrigation works for which capital and revenue accounts are kept.

II. Irrigation works for which capital and revenue accounts are not kept.

CHAPTER V.

APPENDIX I.

APPENDIX II.

Statement showing the results of irrigation.

APPENDIX III.

ADMINISTRATIVE ACCOUNTS.

INDEX TO DIAGRAMS AND SKETCHES CONTAINED IN THE REPORT.

PUBLIC WORKS DEPARTMENT, MADRAS PRESIDENCY

ADMINISTRATION REPORT

FOR THE YEAR 1944-45

PART II—IRRIGATION

Chapter I.

SALIENT FEATURES OF THE ADMINISTRATION—PUBLIC WORKS (IRRIGATION) FOR THE YEAR 1945.

The summary in this Chapter is as usual intended to bring the general information up-to-date to the end of the year 1945.

1. *Cauvery Delta System.*—The Mettur Reservoir was opened for irrigation on the 25th May when the reservoir level was at + 93·60 as against the opening date of 17th May last year when the level was 96·05. Though the normal date of commencement of irrigation contemplated under the project was to the 15th June, the date was advanced by two to three weeks in recent years with a view to promote development of double crop. Experience, however, showed that the ryots did not make full use of the early supplies. In future the reservoir is proposed to be opened only on the 1st June when the reservoir level is not less than 95·0. In years when the reservoir is below 95, the date would be 7th June.

The south-west monsoon was disappointingly weak this year and the freshes received since the 8th July when the level was at 43·35 filled the reservoir only up to 68·75 on the 31st August. The level of the reservoir for successive days of the season was the lowest on record since the project began to function. The north-east monsoon also has not been very active so far. The limited storage had to be used economically by putting the rivers on turns. Although the supplies to the delta had thus to be continuously on a restricted scale, the crops were in a fair condition throughout the year. The water level was however going down steadily and it was expected that on the 30th December the lake level would go below the critical level needed for supply of electric power. As the supply of water to the crops was considered paramount it was decided by Government that even at the risk of closing the Mettur Power House for some months, the existing supply of water in the lake should be judiciously distributed to save as much of the rice crop in the Tanjore Delta as possible.

Remodelling of several channels in the Grand Anicut Canal Division to suit the actual requirements of irrigation was done during the year. Observations in the channels that were remodelled temporarily were taken and the results were pending examination.

2. *Godavari Delta System.*—An extent of 61,100 acres in the Eastern Delta was thrown open for second crop cultivation under the localization rules and an additional area of 10,800 acres was also thrown open for second crop cultivation to make up the deficit in the Nagaram island owing to the collapse of the Gannavaram aqueduct and to give relief to the areas affected by the floods in the Tulyabhaga drain. In the Godavari Western Delta a total area of 154,000 acres which exceeded the ultimate ayacut of 144,000 acres fixed for second crop as per localization rules was thrown open for second-crop cultivation. But in the Central Delta the area of second crop actually brought under cultivation was only about 7,100 acres out of 19,470 acres scheduled for the Nagaram island, owing to the apprehension of the ryots regarding inadequacy of supply down the Gannavaram aqueduct, the collapsed arches of which were under reconstruction. However, the second crop in all the deltas was fair and satisfactory.

The reconstruction of the collapsed portion of the Gannavaram aqueduct was completed before the first crop season commenced.

A severe cyclone raged in the delta from the 17th October midnight till the 18th evening. An unprecedented high tidal wave followed in its wake, swept the coast and left a trail of enormous havoc. Standing crops on 100,000 of acres of first crop in the Godavari Western Delta in Narasapur and Bhimavaram taluks and on 12,600 acres in the Godavari Eastern Delta were completely damaged. In the Godavari Central Delta, all irrigated areas up to a contour of 6·0 from the cost was affected by the tidal wave. To wash off the salinity in the affected area, heavy rush supplies are being sent down the canals and channels to make the lands fit for cultivation. To give relief to the damaged areas in all the deltas, second crop is proposed to be allowed to as large an extent as supplies would permit.

3. *Kistna Delta System.*—The freshes in the Kistna River were received late this year on the 26th June and the maximum flood level on 15th July 1945 was 13 feet over the crest of the anicut against 12·8 feet last year and the maximum ever recorded 23·5 feet. There was considerable loss of crops on account of the cyclone and tidal wave on the 17th and 18th October and about 6,500 acres were partially submerged. To give relief to the affected areas the Government have thrown open the area badly affected by the cyclone in Kistna Eastern Delta instead of the usual earlier closure to suit the shorter crops.

4. *Kistna East Bank Canal Extension System.*—The Kistna East Bank canal was reopened as usual on the 15th of May and it was kept open till the end of November as the ryots had raised long crops instead of the scheduled short crops. The crops were generally good except for the slight damage caused by the cyclone on the 18th October.

5. *Periyar System.*—In spite of the complete failure of the south-west monsoon this year also, it was possible to raise successfully a kodai crop both in the Periyar delta and in the Cumbum valley by resorting to careful regulation and a system of turns from time to time. The late outbreak of the north-east monsoon helped transplantation of the kalam crop which was in progress by the end of the year. The general scarcity of water in the delta necessitated supply of Periyar water through the Adalai tank for drinking purposes in the Madura Municipal limits for an unusual period of 32 days.

6. *Tungabhadra Project.*—A special staff consisting of a Superintending Engineer and four Executive Engineers with nine Subdivisional Officers was sanctioned for the construction of the project. Preliminary arrangements for surveys and final setting out of alignment of the canal, and layout of camps at important places were made. Construction of quarters and offices are in progress. A saving of nearly Rs. 30 lakhs and involving a reduction in the length of the canal by 4 miles is expected on account of the proposed substitution of an aqueduct instead of a regulator for the main canal at the Hagari river crossing. The technical aspects of the dam construction were under consideration by the Chief Engineers of Madras and Hyderabad Governments.

7. *Polavaram Reservoir Scheme.*—The investigation of the scheme was in progress. Sri Diwan Bahadur N. Govindaraja Ayyangar, Chief Engineer for Irrigation, who was deputed to America to purchase machinery for the Tungabhadra Project was also asked to obtain expert advice from the American experts and engineers on the type of foundations to be adopted for the dam. The scheme has since been renamed as Ramapadasagara reservoir project.

8. *Grow More Food Schemes—Cauvery-Mettur Project.*—The special scheme to bring under irrigation an area of 40,000 acres under the undeveloped ayacut of the Cauvery-Mettur Project having proved a thorough success last year, a second target of 15,000 acres was fixed for this year. Twenty-five field bothies were excavated, 187 temporary pipes were granted and 9 tanks drained and the tank-bed lands made available for cultivation. The area thus brought under irrigation was 13,183 acres.

Another scheme for the extension of irrigation beyond Narasinga Cauvery to an ayacut of 15,000 acres was investigated and an extent of 2,500 acres as the first instalment thereof was sanctioned and taken up for execution.

During the year six new schemes at an estimated cost of Rs. 5·39 lakhs and designed to irrigate an approximate ayacut of about 4,700 acres were sanctioned—vide list below. Twenty-six schemes were completed during the year and brought

to beneficial use. On the whole, since the inauguration of the Grow More Food campaign 75 schemes, including major and minor ones, were sanctioned at a cost of 95·95 lakhs for irrigating 108,200 acres. Of these, 61 schemes had been completed by the end of 1945.

9. *Land colonization schemes.*—Proposals for the colonization of demobilized soldiers by providing irrigation and drainage facilities in the Bhimavaram, Razole, Amalapuram, Divi, Repalle, Bapatla, Nandikotkur and Kavali taluks of the Province were under consideration.

10. *Contour bunding.*—Government decided that a scheme similar to the Bombay Contour Bunding and Dry-Farming scheme adopted in the famine areas of the Bijapur district would be of lasting benefit to the Ceded Districts in this Province and ordered that as an experiment the contour bunding work may be done on some 25,000 acres in these districts at Government cost. Special P.W.D. staff for the preliminary investigation and preparation of plans and estimate was sanctioned for 2 months. The investigation was taken up in December and was in progress.

11. *Research.*—The construction of the laboratory building and other connected works for the Research Station, Poondi, was completed. The laboratory was opened in July. Experiments on hydraulic models and investigations on the analysis, consolidation and permeability of soils, chemical analysis of water, design of syphon spillways, canal drops, spillway dams, etc., were carried out.

12. *General.*—The south-west monsoon was a thorough failure in the catchment areas of the Mettur and Periyar Reservoirs. The north-east monsoon was however vigorous in the Periyar area, but not so in the Mettur area. The severe cyclone and tidal wave in the coastal areas of the Godavari and Kistna districts caused heavy damage to crops.

List of new schemes (referred to in paragraph 8).

	Approximate ayacut.	Estimated cost.
	RS.	RS.
1 Excavation of spring channel to Block II, Gannavaram and Vibravaram villages.	168	19,000
2 Extension of Addalapalem and Mamidithota channels in Godavari Central Delta.	1,900	1,47,200
3 Reconstructing the syphon carrying the Karlapalem channel across the Nallamada drain.	927	1,10,000
4 Excavating a supply channel from Boggeru to Bhimavaram tank.	311	66,000
5 Excavating a channel for improvements to Choragudi and Achampallam villages.	777	96,600
6 Extending Battelanka No. I channel for irrigating lands in Sankaraguptam and Kesanapalli villages.	663	1,00,300
Total ..	4,746	5,39,100

Chapter II.

A Bird's-eye View of Irrigation in Madras Presidency.

A brief summary of the irrigation systems in the Presidency is given below.

In the Circars, we first have in the extreme north of the Presidency, the Bahuda River and Padmapuramgedda irrigating an extent of 6,000 acres; next the Chicacole Minor Rivers system comprising a number of channels taking off from the rivers the Vamsadhra and the Langulya and also the hill stream Garibulagedda and irrigating about 67,000 acres. The Nagavalli system irrigates the next largest area in Vizagapatam district. By means of a regulator across the river at Thotapalli sufficient water is diverted through a main canal and its branch channels to irrigate roughly 28,000 acres. The project was completed in 1909 and has been of great benefit to the ryots. In the southern portion of the Vizagapatam district, there are again a number of channels taking off from the Varaha and the Sarada rivers. The former system irrigates about 18,000 acres and the latter 9,000 acres.

The next is the Godavari Delta. To those who have not the local knowledge the fact that the value of the crops now grown annually in this delta is several crores will convey a very meagre idea of the benefits of irrigation. The Godavari ryots have recently erected at Dowlaishwaram, Bobberlanka and Chettipetta statues to commemorate the memory of Sir Arthur Cotton, the originator of the scheme, and by doing so have shown their appreciation of what he has done for the district by his monumental works for securing copious supply of precious water to their lands. Roughly one and half million acres of both first and second crops are irrigated by the net work of canals and channels thousands of miles long, the value of the crops grown annually exceeds nine crores. The canals have been designed not only for irrigation but also for navigation. Sixty locks have been built and more are being considered. About 400 miles of canals are navigable for boats up to 90 tons capacity and the major part of the exports and imports from and to the delta is conveyed by boat. That this connected system of navigation has helped a great deal to the prosperity of the Godavari and the Kistna ryots will be appreciated when it is stated that the cost of transport to Madras by water is only one-eighth to one-tenth of the cost of transport by cart or other means. For instance, the cost of transport per bag of rice from the Cocanada port to Rajahmundry is 6 pies whereas that from Negapatam port to Tanjore is four annas even though the distance to be covered is the same in both the cases ; this is because water transport is available in the former and not in the latter case. By means of the Godavari and Kistna canals and Buckingham Canal one can go by boat from Madras to Cocanada, a distance of 400 miles, and from Rajahmundry one can continue the journey by boat beyond Bhadrachalam right up to the Central Provinces, a further distance of 188 miles.

The next is the Kistna Delta. Just over a century ago, famines were recurrent in these parts and the appalling conditions that were then prevailing induced the Government of the day to push forward the Godavari and Kistna projects. At Bezwada in the Kistna district an anicut was built across the Kistna in 1855 (shortly after the completion of the anicut at Dowlaishwaram). The anicut diverts water through a net work of canals and channels to irrigate over 9 lakhs acres in Kistna and Guntur districts. The Kistna canals are also navigable and the greater part of the trade of the deltaic portions of the two districts is carried on by boats. Our Godavari and Kistna projects are probably the most beneficial and most successful irrigation schemes ever executed by any Government in the world. They have improved the condition of the people of the districts beyond the highest expectations of the originator, while the return on the capital invested in building them has sufficed not only to maintain and keep the systems up to date but has provided a continuous source of revenue which has enabled Government to initiate other projects, far less attractive financially in less favoured districts.

It should be stated here that we have till now utilized only six per cent of the annual flow of the Godavari and seven per cent of the annual flow of the Kistna and we are still a great way from utilizing the large quantity of water that flows to the sea.

Leaving the rich districts of Guntur and Kistna and coming down to Nellore, we meet a dry and barren district but advantage has been taken of such facilities as exist for extending irrigation. Near the sea coast, the rainfall is generally favourable, and with the addition of some extra water, supplied by means of irrigation, excellent crops are grown. Nellore rice is famous for its quality. Two anicuts across the Pennar divert water to the Kanigiri and the Survapalli reservoirs and about 165,000 acres of paddy are cultivated under them annually. Further inland, the Mopad Reservoir built in 1921 as a famine-protective work has fulfilled the purpose for which it was intended.

Leaving Nellore, we shall divert from our course for a few moments and strike west and north-west to have a glimpse at Cuddapah, Kurnool, Bellary and Anantapur districts. These districts known as "Rayalaseema" are in the famine zone and are periodically liable to failure of rain and consequent drought. Irrigation in Rayalaseema is by the very nature of the country difficult. Rainfall with its consequential

river and stream flow is the first requirement for a successful irrigation scheme and when rain fails in the locality we propose to benefit, we must look to some external source, for example, a river whose main catchment area is outside the districts liable to failure for supply. Irrigation schemes in Rayalaseema depending on local rains must, generally speaking, be of doubtful utility. Proposals for tapping the supplies from the Perennial Thungabhadra have been under examination, for a pretty long time and it was only recently that an agreement was arrived at between the Hyderabad and Madras Governments in the matter of sharing the water for irrigation purposes. The reservoir to be formed by constructing a dam at Mallapuram near Hospet is designed to have a capacity of about 110 T.M. cubic feet and irrigate over one million acres in the Madras and nearly an equal extent in the Hyderabad territories. The cost is estimated at about 10 crores of rupees. The Government have since sanctioned the execution of the scheme and posted special staff therefor. It is hoped that the spectre of famine in the Rayalaseema will vanish with the completion of the project in spite of the general deficiency of rainfall and the heavy black cotton soils in these parts. The Kurnool-Cuddapah canal which flows through a black cotton belt has not been successful though in years of deficient rainfall its water is eagerly sought after by the ryots for their crops.

South from Nellore we come to Chingleput where there are no major irrigation schemes, but about 450,000 acres are irrigated by as many as 653 tanks. The district is peculiarly suited to tank irrigation; rainfall is generally favourable and the topography of the district favours this method of irrigation.

In South Arcot district also there is a large number of tanks which irrigate over 300,000 acres. In addition, advantage has been taken of the fact that the district is traversed by two fairly large rivers, the Penniar and the Vellar. An anicut across the Penniar at Tirukkoyilur diverts sufficient water for about 30,000 acres. Regulators combined with road bridges have been built across the Vellar at Toludur and the Shatiatope; the former diverts water to Willingdon reservoir for over 25,000 acres (the ayacut is still expanding) and the latter diverts water through the Vellar Rajan channel and its branches to irrigate about 34,000 acres between Cuddalore and Porto Novo. Coleroon water is diverted at the Lower Anicut to irrigate about 118,000 acres in Chidambaram taluk. Besides, there are two anicuts at Vriddhachalam and Mehmattur across Manimutha nadhi, a branch of the Vellar, which irrigate about 10,000 and 5,000 acres respectively.

Deviating from the southerly course for a few moments we meet the North Arcot, Salem and Coimbatore districts. The Palar river which rises in Mysore is the main feeder for North Arcot. Water is diverted through a series of canals and channels of the Palar anicut, 15 miles from Vellore, to irrigate over 100,000 acres. The district had many old tanks which have been retained and which now form an essential part of the system. Flow in the Palar is intermittent and in the old tanks the flood flow of the river is stored which without tanks would be wasted over the anicut. The Poiney anicut in the same district irrigates over 36,000 acres. The Cheyyar anicut also in the same district irrigates over 37,000 acres.

The Salem district is particularly not favoured by nature. The largest irrigation scheme in it is Barur. An anicut across the Penniar diverts water to the Barur reservoir which irrigates over 7,000 acres. The district depends mainly on tanks many of which get a supply over and above that contributed by their own catchment through channels taking off from anicuts built across adjacent streams. Though Mettur reservoir is in the district it has not been possible owing to very unfavourable conditions to devise any scheme to benefit Salem from this source. The Cauvery channel in Namakkal taluk irrigates 7,000 acres of very rich and fertile lands. Proposals are however under consideration to provide irrigation for about 40,000 acres of lands in the district by pumping from the river Cauvery.

The Coimbatore district depends mainly on the Bhavani which irrigates at present a large area of paddy. There are in addition several tanks and the waters of the Chitrachavadi, the Noyel and the Amaravathi are also utilized to the greatest extent possible by means of anicuts.

Continuing the southerly route from South Arcot, Tanjore is reached. Irrigation of about 7·8 lakhs of acres has been practised in Tanjore for centuries and with the modern works recently built, the ayacut now is about 9 lakhs of acres. The

Cauvery-Mettur project completed in 1934 is intended to ensure supply to the new delta as well as to extend irrigation by 301,000 acres in Pattukkottai, Mannargudi and Arantangi taluks. Tanjore has had a hoary tradition of irrigation works dating back to some 2,000 years. The benefits of Mettur reservoir to landholders in Tanjore delta are manifold. The reservoir acts as a flood moderator and protects the Tanjore ryots from the ravages of the Cauvery floods in the south-west monsoon to which they were subject hitherto. It secures to the ryots the benefits of early supplies in June and ensures steady and regular flow throughout the irrigation season.

The Trichinopoly district, like Tanjore, depends mainly on the Cauvery for its irrigation and prosperity. Many channels take off directly from the river to irrigate about 135,000 acres of fertile valuable lands.

Madura benefits mainly from the Periyar project. A dam built across the Periyar river in Travancore holds up water in the Periyar lake and a tunnel 5,700 feet long, conveys this water to the Vaigai valley and thence to Madura. One hundred and thirty-four thousand acres roughly are irrigated by the Periyar project. The difference that this scheme has made to the prosperity of Madura district is enormous. The chief merit lies in its sociological effects on the population of the district. The Kallars and Maravars whose habits of life were none too helpful to the society have now settled down in peace and prosperity to tilling land and adding to the wealth of the country.

The Tinnevelly district, which adjoins Madura, depends mainly on the Tambraparni river across which several anicuts have been built to irrigate about 75,000 acres. The irrigated portion of Tinnevelly is noted for its fertility.

In Tinnevelly the Papanasam hydro-electric scheme involving a dam 170 feet high on the Tambraparni is in progress. Though the reservoir is formed mainly for power, it will benefit irrigation also.

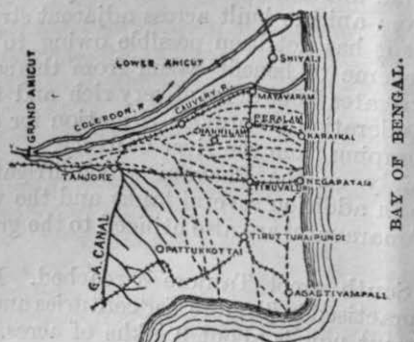
Tank irrigation is of the greatest importance in this presidency where 2,383,000 acres are irrigated under tanks. Similarly wells are another important source of supplies and are responsible for irrigation of about 1,540,000 acres. Attempts are being made to extend well irrigation by means of electric pumps in suitable areas.

Chapter III.

Brief Description of Important Irrigation and Navigation Works.

The Cauvery Delta System.—The Cauvery rises in Coorg and flows for a considerable distance over the Mysore plateau. It then drops into the plains of Madras at the Hogainkal or Megadatu falls. The chief tributaries of the river are the Hemavathi, Lakshmanathirtha and Kabbini in Mysore and the Bhavani (rising on the Nilgiris) in Madras. The Cauvery is 500 miles long and drains 31,000 square miles. The river benefits by the south-west and north-east monsoons and irrigates a large area in Mysore before it enters Madras. There are two big reservoirs on the river—the Krishnarajasagara near Mysore and the Stanley reservoir near Salem. Hydro-electric power is developed at Sivasamudram and at Stanley Dam at Mettur, at the former by utilizing the natural fall of the river and at the latter by utilizing the head due to storage at the dam.

Irrigation in the Cauvery Delta System is of great antiquity dating back to the ancient Hindu Kings of Tanjore—said to be about the second century B.C. The delta begins at the head of the Srirangam Island where the river divides into two, the right arm called the Cauvery carrying irrigation supplies and the left arm, the Coleroon being the flood carrier. There is a barrage with lift shutters—the Upper anicut—across the Coleroon at its head to divert requisite supplies to the Cauvery over the Cauvery dam.



About 20 miles below the Cauvery dam is the grand anicut, an ancient masonry anicut built across a by-pass from the Cauvery into the Coleroon below the Srirangam Island. This anicut, intended to hold up and divert the normal flow of the Cauvery to the rivers supplying Tanjore delta, was converted into a regulator with lift shutters to permit effective disposal of surplus from the Cauvery and for passing supplies to the Lower Coleroon Anicut System.

At the Grand Anicut, the Cauvery branches into the Cauvery and the Vennar, which in turn throw off a number of branches and irrigate the fertile lands of the Tanjore Delta, the well-known "Granary of South India." The new Grand Anicut canal of the Cauvery-Mettur Project also takes off at this point.

The delta is long, fertile and level, some 2,000 square miles in area with a seaboard over a 100 miles long extending from Point Calimere to the south as far north as Porto Novo and some distance beyond to Cuddalore. It is served with a net-work of rivers and channels supplies into which are controlled by several regulators. Many of the smaller rivers of the delta function both as irrigation and drainage channels.

The area irrigated under the Cauvery Delta System alone is about 870,000 acres (first crop) and just over a million acres including the second crop. The value of the crops yielded is about Rs. 11·14 crores. Over 85 lakhs have been spent on improvements since the system was taken over from the Tanjore Kings. The system yields a return of about 10 per cent on the capital outlay after giving credit for about 38 lakhs of rupees towards old revenue.

Srivaikuntam Anicut System.—The Srivaikuntam anicut is the last of the anicuts across the Tambraparni in Tinnevelly district. Two channels take off at the anicut. On the left is the North Main channel feeding a series of tanks and finally emptying into the Morumpallam tank. On the right side the South Main channel takes off and supplies the large Kadamba tank and a series of tanks below it and irrigation under it extends as far as Tiruchendur with its famous temple on the seashore. The system irrigates about 24,700 acres. The capital expenditure was about Rs. 18 lakhs and the return is 4 per cent on the outlay.



The Godavari Delta System.—The Godavari raises in the Western Ghauts within 50 miles of the Arabian sea and flows across the Peninsula for 900 miles before it falls into the Bay of Bengal. Its chief tributaries are the Manjira from Hyderabad and the Pranahita made up of three smaller streams from the Central Provinces, the Indravathi and the Sabari. Shortly after the Sabari joins it, the Godavari now deep and narrow winds its way through the spurts of the Eastern Ghauts and for 2 miles it flows through a picturesque gorge clothed with luxuriant tropical vegetation. Some distance below, it leaves the last ranges of the Ghauts, enters the plains at Polavaram and flows onward as a broad and shallow river until some distance below Rajahmundry where it divides into two main branches, the Gautami and the Vasishta Godavari rivers. Between the two arms lies the central delta, while the eastern and western deltas lie to the east and west of the two arms respectively. The two arms split up into branches, as they approach the sea, dividing the central delta into a number of islands. The river drains about 115,000 square miles and carries as much as $1\frac{1}{2}$ million cubic feet per second in very high floods.



Prior to 1840, the Godavari district was frequently the scene of bad famines. In 1832–33 a terrible famine ravaged the district and the calamitous famine of 1840–41 followed after some more bad years. The recurring famines, the decreasing population and the dwindling revenue spurred the Government to action and Major Cotton (latter Sir Arthur Cotton) who had just then completed great improvements in Tanjore proposed the construction of an anicut across the Godavari at Dowlaishwaram with three canals, one for each of three deltas. The works were sanctioned almost immediately and carried out expeditiously under his guidance. It is to the genius, keenness and intrepidity of Sir Arthur Cotton, that Madras owes these monumental works unprecedented both as to type and magnitude and which have proved to be a veritable gold mine.

The Godavari anicut system consists of an anicut and three main canals irrigating three deltas. The anicut is in four sections, linking the islands in the broad river, the Dowlaishwaram section 4,839 feet long, the Ralli section 2,859 feet long, the Maddur section 1,550 feet long, and the Vazeswaram section 2,601 feet long. It was subsequently found necessary to raise the anicut slightly and fit up falling shutters, 2 feet high on the crest. In 1935, the two feet shutters were replaced by three feet shutters. The shutters which fall automatically during floods are lifted as the flood subsides by means of power-operated ploughs, so as to maintain the requisite water level in the river.

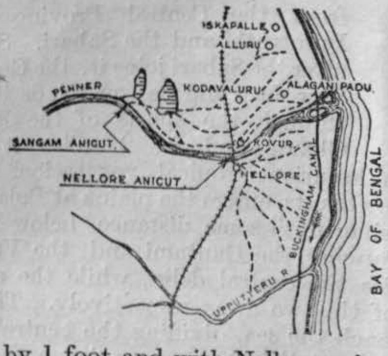
The head works of the canals consist of a head sluice, and under sluice and a head lock for each of the three deltas. The eastern delta is about 450 square miles, the central delta 500 square miles, while the western delta about 1,000 square miles in extent stretches down to the Collair lake.

In the eastern and western deltas, the Samalkota and Ellore canals define the limits of irrigation to the areas enclosed between them and the river Godavari. They also form the link between Cocanada Port and Ellore town where the (Kistna) Ellore canal of the Kistna Delta System joins the (Godavari) Ellore canal. The central delta particularly the " Nagaram " island, is the " Garden of the Godavari district " and is noted for the Gannavaram aqueduct which was completed in about eight months in the fifties of the last century, a remarkable feat due to Captain Orr. The Polavaram aqueduct at Annampalli is a similar recent construction to irrigate Polavaram island. The river and its branches are banked throughout to protect the deltas from the floods.

The net-work of canals in all the deltas are navigable throughout their length for eleven months in the year and carry annually cargo valued at nearly Rs. 24·71 crores besides timber worth about Rs. 2·40 crores and passengers over a million a year.

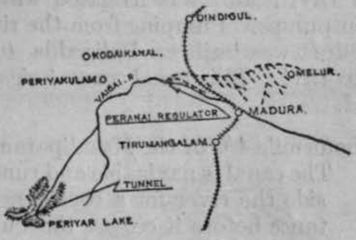
The canals irrigate about 820,000 acres but the total area irrigated during the year including the second-crop area is over 1 million acres. The value of crops grown is Rs. 10·08 crores. The capital outlay on the system is about Rs. 1·95 crores and the return is 20 per cent.

Pennar River Canals System.—The system consists of two anicuts, one at Sangam and the other at Nellore. Two canals take off at the Sangam anicut and the left, one to feed the Duvvur tank and the other the large Kanigiri tank, one of the largest tanks in the Circars. Another channel taking off at right side of the anicut feeds the Nellore tank. At the Nellore anicut about 20 miles down-stream of Sangam, a canal takes off on the right and feeds a number of tanks, the largest of which is the Sarvapalli tank. The Sangam anicut has recently been raised by 1 foot and with Nellore anicut system irrigates about 146,600 acres; the capital expenditure is Rs. 71 lakhs and the return is 9 per cent.

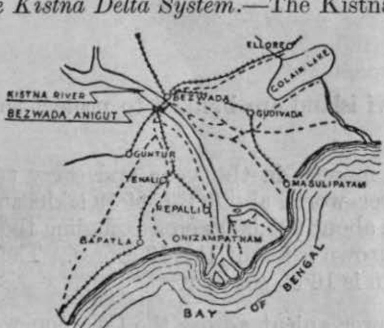


The Shatiatope Anicut System.—The system is a combined tank and canal system served by the Vellar Rajan channel taking off from the Shatiatope anicut across the Vellar. The old anicut was converted into a bridge and regulator fitted with lift shutters about 1906. The system irrigates about 32,700 acres in South Arcot district and irrigation extends almost as far east as Cuddalore. The Perumal tank is one of the largest tanks and is the terminal tank of the system. The capital expenditure on the system is about Rs. 11 lakhs and the return is about 8 per cent.

The Periyar System.—The main feature of the Periyar system is the diversion across the Peninsula into the Bay of Bengal of a large river which nature had ordained should flow into the Arabian Sea. A huge dam across an inaccessible gorge in Travancore, about 3,000 feet above sea level, in malarial ridden jungle, forms a picturesque lake in the hills with a useful capacity of about 9,800 million cubic feet. The project is due to the genius of Colonel Pennycuick. The dam is of concrete with a masonry facing on the lake side about 170 feet high above river bed at the deepest point. A tunnel 5,700 feet long has been bored through the ridge on the east to carry the waters of the lake to the plains of Madura. The water flows into the Suruliyar, tributary of the Vaigai, and after irrigating about 12,700 acres in the Suruliyar Valley, is again picked up at the Peranai regulator across Vaigai about 80 miles downstream of the tunnel and diverted into the Periyar main canal about 35 miles long. The system irrigates about 126,000 acres in Madura district. The capital expenditure on the system is about 108 lakhs and the return is about 6·00 per cent.



The Kistna Delta System.—The Kistna rises in the Western Ghauts near Mahabaleswar, some 4,000 feet above the sea level and runs southwards through the Bombay Presidency for some distance before it turns east into Hyderabad and receives the Bhima. Further down the Tungabhadra joins it and from here the river is for a considerable distance the boundary between Madras and Hyderabad. The last important tributary to join is the Musi. The river after flowing through a narrow gorge in the Nallamalais enters the plains of the Coromandal coast studded with hills. The last of the three hills is at Bezwada where the river flows between two of them hardly 6 furlongs apart. Stretching away on both sides of the river beyond Bezwada lie the two sections of the delta, the eastern delta lying on the left side and the western delta lying on the right. For 40 miles below the river runs in a single stream. It then throws out the Puligedda branch. Between this and the main river lies the Divi island. The main river then flows for 15 miles and splits into three branches before it empties into the sea. The river drains 97,000 square miles and its flood discharge is about a million cubic feet per second.



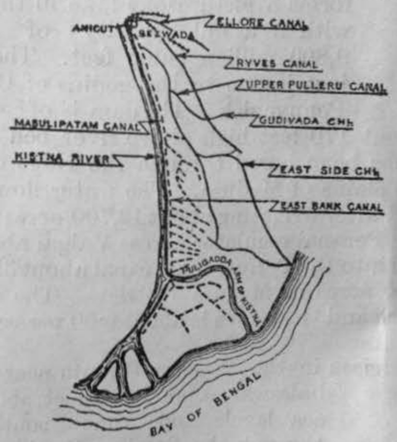
The history of the Kistna anicut follows almost the same course as that of the Godavari. Sir Arthur Cotton, who built the Godavari anicut, was again responsible for the anicut at Bezwada with its two canals, supplying the two sections of the delta on either bank of the river.

The anicut is about 6 furlongs in length; its crest was raised at a later date by one foot and fitted with three feet falling shutters to improve the supplies to the delta. In 1935 even this was found insufficient and 6 feet falling shutters were substituted.

The shutters are tripped by hydraulic pressure to pass floods and a steam plough is used to lift them up as the flood subsides. The head works of each canal consist of head and undersluice and a head lock.

The eastern delta has an area of about 1,160 square miles and stretches as far north as the Collair. The western delta is about 950 square miles and extends to the south as far as Pedda Ganjam. The Kistna-Ellore canal in the eastern delta connects the Godavari-Ellore canal in the north and the Commamur canal of the western delta joins the Buckingham canal in the south. These contour canals and the interior canals form a net-work of irrigation and navigation canals affording means of irrigation and transport for the two deltas. The Divi island was irrigated with water pumped from the river by Diesel engine driven pumps. Pumping from the river was the practice till 1935 when the Campbell aqueduct was built at Puligedda to carry the Kistna East Bank canal across the river to Divi. This canal now irrigates by direct flow the entire ayacut in the Divi island.

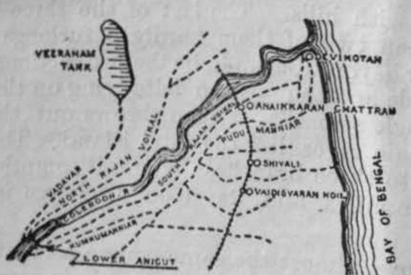
The Kistna East Bank canal takes off at about mile 4/0 of the Masulipatam canal. The canal is navigable and runs alongside the river for a considerable distance before it crosses the Puligedda arm of the Kistna river by the Campbell aqueduct. The aqueduct is the longest reinforced concrete aqueduct bridge in India and carries a roadway 16 feet wide and a footpath 4 feet wide. The aqueduct is submersible during the high floods. The capital expenditure on the canal is Rs. 58 lakhs and the return is 8·99 per cent.



The river and its arms forming the Divi island are banked to protect the delta from floods.

The canals are navigable for about 10 months in the year and carry annually cargo valued at about Rs. 16·35 crores timber worth about Rs. 44·59 lakhs and over 2 lakhs of passengers. The system irrigates about 930,000 acres excluding the Kistna East Bank canal. The value of the crops grown is about Rs. 12 crores. The capital expenditure is Rs. 2·25 crores and the return is 16·63 per cent.

Lower Coleroon Anicut System.—The lower anicut across the Coleroon was built about 1840 by Sir Arthur Cotton to ensure supply to the areas originally irrigated by river channels. The old works were substantially improved in 1906. The weir was converted into a regulator of 70 vents fitted with lift shutters 33 feet 4 inches span and 8 feet high. The Vadavar and North Rajan channels taking off on the left side irrigate lands in the Chidambaram taluk of the South Arcot district. The Kumikimanniyar and South Rajan channels take off on the right and irrigate lands in the Shiyali taluk of the Tanjore district. The Vadavar is a contour canal supplying the large Veeranam tank, which also supplements supplies in the river valleys through a sluice at its northern end. The system irrigates about 118,700 acres. The capital expenditure is Rs. 30 lakhs returning 4·02 per cent.



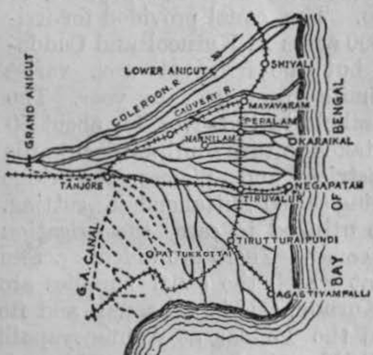
Willingdon Reservoir.—Originally known as the Toludur Project is a comparatively new work in South Arcot district opened in 1923. There is a bridge and regulator fitted with lift shutters across the Vellar at Toludur from which a canal three and a half miles long takes off and feeds the reservoir which has a capacity of about 2,400 million cubic feet. The bridge carries the Great Southern Trunk Road from Madras to Trichinopoly. From the Reservoir a channel takes off and branches into the high and low level channels a short distance below the head. These are designed to irrigate about 25,000 acres. Irrigation is not yet fully developed and the system now irrigates about 20,000 acres. The capital expenditure on the system is about Rs. 26 lakhs and the return is 3·78 per cent.



Polavaram Island System.—The system consists of a canal taking off the Bank Canal of the Godavari Central delta about half a mile above Annampalli lock. The canal exceeds the Vriddha Goutami by a masonry aqueduct and irrigates the Polavaram island enclosed by the two branches of the Goutami Godavari. The system irrigates about 15,200 acres in East Godavari district. The capital expenditure is about Rs. 17 lakhs and the return is 4·02 per cent.



Cauvery-Mettur System.—While the south-west monsoon in the hills is fairly heavy and responsible, the north-east monsoon supplies to the Cauvery are irregular. The caprices of the north-east monsoon have frequently affected cultivation in Tanjore. Moreover, there is usually a break of about six weeks between the two monsoons during which period the supply in the river is very low and insufficient for irrigation requirements. The chief aim of the Cauvery-Mettur system is to remedy this state of affairs by storing the excess water during floods and passing it down later when the natural flow in the river falls below requirements. It is also intended to irrigate 301,000 acres of new land chiefly in the Mannargudi, Pattukkottai and Arantangi taluks of the Tanjore district.



The system consists of a large reservoir at Mettur known as the Stanley reservoir and a canal known as the Grand Anicut canal in Tanjore taking off above the Grand Anicut.

The Stanley reservoir has a waterspread 60 square miles in area and holds 93,500 million cubic feet of water when full. The lake is formed by a masonry dam across the valley of the Cauvery. It is 5,300 feet long and 214 feet high at the deepest point. It is almost the biggest dam in the world and costs Rs. 4·8 crores. There are two sets of sluices in the dam, the high and low level sluices with sills at +720 and + 670 while the F.R.L. is + 790 and the M.W.L. is 796·00. The river floods are surplussed over an escape at the left flank fitted with lift shutters at 60 feet long and 20 feet high and an emergency escape at the right flank. The design however provides for raising these by 10 feet high if it becomes necessary.

The sluices and the surplus shutters are worked by electric power but it is possible to work any of them by hand if required. The dam also incorporates four sets of cast iron lined sluices 8 feet 6 inches diameter. These enable supplies to be drawn for the development of hydro-electric power below the dam and a hydro-electric power station has been built below the dam and is in operation since 1937. Irrigation supplies for the new area under the reservoir are passed into the river below the dam and picked up at the Grand Anicut about 120 miles downstream. The new canal called the Grand Anicut canal is a contour canal about 70 miles long has costed about Rs. 200 lakhs. It runs through Tanjore town, after passing which it throws out the large Kalianodai and Rajamadam branch canals. Down below there is a net work of branch channels and the system irrigates lands as far south as the Narasingha Cauvery.

The system is under development. It now irrigates about 176,000 acres. The capital outlay is Rs. 6·5 crores and the present rate of return on capital is 2·71 per cent.

Kattalai System.—The South Bank canal was excavated to replace the four old korambu channels—Marudur nattu voikal, Mahadanapuram channel, Nangam channel and Uyyakondan channel taking off from the right bank of the Cauvery in Trichinopoly district, as irrigation under them was troublesome and uneconomical. Because the river-bed at the head of the South Bank canal had been badly scoured by the 1924 floods a bed regulator was constructed there. Five furlongs below its head, the canal divided into the High Level channel and the South Bank channel. The system irrigates about 50,400 acres. The capital expenditure was about Rs. 41 lakhs and return is 0·09 per cent.

Kurnool-Cuddapah Canal.—The Kurnool-Cuddapah canal takes off from the Thungabhadra from an anicut at Sunkesula about 15 miles upstream of Kurnool. The anicut and canal were constructed by the Madras Irrigation and Canal Company, Limited, incorporated in England in 1858 with a guarantee of 5 per cent interest on outlay. The work was completed about 1870 and was handed over to Government on payment of Rs. 3·02 crores. The canal provided for irrigation of 76,500 acres in Kurnool and Cuddapah districts but the irrigated area varies within wide limits from year to year. The canal runs parallel to the river for about 50 miles when it takes to turn southwards towards Cuddapah district and pierces the ridge between Pennar and Kistna valleys through a cutting called Mittakondala cutting. Below this point the Kali and Kundu rivers are utilized to carry the irrigation supplies, the canal serving mainly as navigation canal. There are anicuts across the Kundu river at Santhajuttur and at Rajoli at which the canal supplies are again picked up and used for irrigation in the Kurnool-Cuddapah canal and its branches. At about mile 180, the canal crosses the Pennar at Adinimeyapalli anicut and is continued on the right as far as Cuddapah town. The Kurnool-Cuddapah canal flows through black cotton soil and irrigates mostly dry crops. These crops do not require canal supply in years of good and well-distributed rainfall but in other years they require occasional irrigation. The canal is maintained at a heavy and recurring loss particularly because of its use in famine years. The canal was navigable throughout till 1934 when the reach below Lockinsula at mile 74/0 was closed to navigation, as there was little boat traffic, and costly replacement of a number of lock gates below Lockinsula was found involved.



The capital expenditure on the canal is about Rs. 234 lakhs and the return is about 0·87 per cent. It is the most expensive project (excluding Cauvery-Mettur project) in Madras.

Barur Tank System.—The system consists of an anicut across the Ponniar at Nedungal, with a supply channel feeding the Barur tank in Salem district. The supply channel also feeds a number of small tanks on the left bank while the two old channels, the Nedungal and Agaram channels, feed small tanks on the right bank.

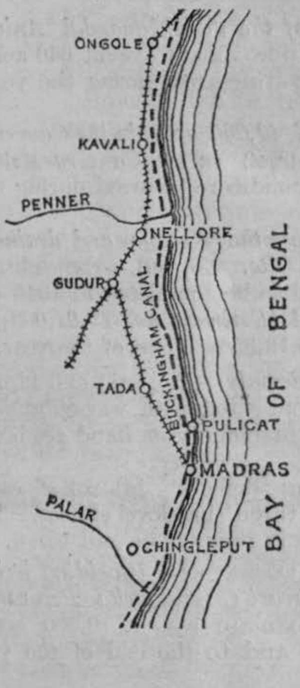
The work on the tank and the supply channel was commenced as a famine relief work in 1877 and subsequently revised to include the anicut, etc. The work was completed in 1899. The system irrigates an area of about 4,100 acres.

The capital expenditure is Rs. 4·5 lakhs and a return of 2·50 per cent is now obtained.

Nagavalli River System.—At Thottapalli in Vizagapatam district a regulator has been built across the Nagavalli river and a channel about 22 miles long has been dug. The channel irrigates about 27,900 acres. The capital expenditure is about Rs. 18 lakhs returning about 4·13 per cent.

Bhavanasi Tank.—This is a reservoir formed by an earthen bund about 2,500 feet long and 30 feet high across the Bhavanasi river in Guntur district with a capacity of about 175 million cubic feet. The reservoir irrigates about 600 acres. The capital expenditure is Rs. 2·65 lakhs returning 1·09 per cent.

Mopad System.—The Mopad system consists of a reservoir with an earthen bund about 70 feet high at the deepest point and more than a mile long, built across the Manneru river in Nellore district. The reservoir has a capacity of about 2,100 million cubic feet and irrigates lands in a tract where famines are frequent. The ayacut of the tank has been fixed at about 7,000 acres but actual irrigation is only about 2,300 acres. The capital expenditure on the system is about Rs. 23 lakhs and the return is 0·41 per cent.



Buckingham Canal.—This canal is used entirely for navigation. It runs through Madras parallel and close to the Coromandel coast, joining up a series of natural blackwaters and connects all the coastal districts with Guntur and South Arcot at the ends. The canal runs for 196 miles north of Madras and 62 miles south of Madras. At its northern end it is connected with the Commamur canal at the Kistna delta which in turn is connected to the Godavari canals running as far north as Cocanada. Due to its alignment close to the coast, the canal is difficult and costly to maintain. The navigability of the north canal depends on the open sea bars at Ennore and Pulicat. In a bad year, water levels may drop and lead considerable difficulty in navigation. The canal carries a large traffic in salt, shells, firewood, building materials and foodgrains and is one of the main feeders to the Madras market. It carries cargo of an estimated value of about Rs. 20·73 crores and about 98,000 passengers every year. The capital expenditure on the system is Rs. 94·82 lakhs and the return is minus 1·77 per cent.

Chapter IV.

A. Important Works carried out during the year 1944–45.

I. Irrigation Works for which Capital and Revenue Accounts are kept.

I. Cauvery Delta System—*A. Grow More Food works.*—(1) *Providing a direct source of supply to Konakodungalar (Estimate Rs. 15,740).*—The expenditure during the year was Rs. 378 and to the end of the year Rs. 13,750. The work has almost been completed. The scheme is intended to afford better irrigation facilities to about 2,680 acres besides improving drainage to certain lands.

(2) *Providing irrigation facilities to the Padugai lands between Cauvery and Kodamurutti (Estimate Rs. 1,82,050).*—Approximate ayacut 320 acres (new) and 1,556 acres (better irrigation). The expenditure during the year was Rs. 12,692. The work has been completed.

(3) *Providing irrigation facilities to certain lands in Rajendran and Narasanayakapuram villages (Estimate Rs. 23,290).*—Approximate ayacut 253 acres. The work was started during the year and has almost been completed. An expenditure of Rs. 10,043 was incurred during the year.

(4) *Providing irrigation facilities for certain lands in Vanarangudi and Sathanur villages (Estimate Rs. 33,200).*—Approximate ayacut 246 acres. The expenditure during the year was Rs. 7,329 and to the end of the year Rs. 12,764. The work has since been completed.

(5) *Providing irrigation facilities to Vallamperambur, Nagathi, etc., villages from Pillaivoikal No. 3 (Estimate Rs. 55,700).*—Approximate ayacut 663 acres. The work was started during the year and an expenditure of Rs. 8,281 was incurred. The work was nearing completion.

(6) *Extension of irrigation under Cauvery-Kondanar in Prathaparamapuram villages (Estimate Rs. 56,100).*—Approximate ayacut 445 acres. The work was started during the year and an expenditure of Rs. 15,414 was incurred. The work has since been completed.

(7) *Providing irrigation facilities in Kambayanatham village and abandoning Motteri tank bringing its bed into cultivation (Estimate Rs. 21,500).*—Approximate ayacut 140 acres. An expenditure of Rs. 3,589 was incurred during the year and the work was in progress during the year. It has since been almost completed.

(8) *Improvements to Karungalar drain (Estimate Rs. 16,000).*—Approximate ayacut 100 acres. The expenditure incurred during the year was Rs. 5,410. The work has been almost completed.

(9) *Excavating a channel on the right side of the Vadakkanandal Anicut across the Gomukhi river (Estimate Rs. 94,700).*—Approximate ayacut 640 acres (better irrigation). An expenditure of Rs. 68,263 was incurred during the year. The work has since been completed in all respects.

(10) *Bringing under irrigation an extent of 40,000 acres in the Cauvery-Mettur Project area (I target) and 15,000 acres (II target) in the Cauvery-Mettur Project area (Amount of estimates Rs. 2 lakhs)*—Expenditure incurred during the year was Rs.

B. Other works.—(1) *Constructing a regulator across the Korayar and drainage sluice from Manakarkottagam channel (Estimate Rs. 65,780).*—Expenditure during the year was Rs. 45,431. The work is expected to be completed in 1945–46.

(2) *Excavating the Kattalai High Level Channel (Estimate Rs. 15,91,000).*—The outlay during the year was Rs. 8,000 and Rs. 15,13,351 to end of the year.

Cauvery-Mettur System—*Disposal of surplus materials.*—The sale and hire of surplus plant and machinery continued for works connected with war-effort and Grow More Food schemes. The remaining plant and machinery on hand are being reconditioned for use in the Tungabhadra Project.

Maintenance works.—The work of rectifying defects in roller cages of high and low level sluices was in progress in the three low-level sluices. The rectification has been completed in vent No. 3 and was in progress in vent No. 5.

II. Godavari Delta System—*A. Grow More Food works.*—(11) *Providing irrigation facilities to the high-level lands at head of the Godavari Central Delta Peravaram Pumping Scheme (Estimate Rs. 9,75,800).*—Approximate ayacut 9,600 acres. The expenditure during the year was Rs. 3,37,310 and to the end of the year Rs. 5,26,157. The work has been completed.

(12) *Providing irrigation facilities to certain lands between Ralli and Lolla locks in Komarajulanka (Estimate Rs. 2,94,400).*—Approximate ayacut 1,660 acres. The work was started during the year and an expenditure of Rs. 15,049 incurred.

(13) *Extending irrigatian under pipe sluice 19—5—460 right bank canal—the New Wadapalem Scheme (Estimate Rs. 40,300).*—Approximate ayacut 383 acres. The expenditure incurred during the year was Rs. 4,850 and to end of the year Rs. 4,958. The work is completed.

(14) *Extension of Sakhinetipalli weir channel and extension of Vashishta left flood bank (Estimate Rs. 94,800).*—Approximate ayacut 671 acres. The expenditure incurred during the year was Rs. 33,930 and to end of the year Rs. 34,038. The work was in progress during the year.

(15) *Extension of irrigation under Nimmakakayala Kothaplli channel (Estimate Rs.* 51,200).—Approximate ayacut 643 acres. The work was started late in the year and an expenditure of Rs. 107 was incurred.

(16) *Providing irrigation facilities to certain dry lands in Palivela, Avidi and Ganti villages (Estimate Rs.* 31,800).—Approximate ayacut 426 acres. An expenditure of Rs. 4,019 was incurred during the year. The work was in progress.

(17) *Kalipatnam scheme—Extension of irrigation to* 1,190 *acres (Estimate Rs.* 57,400).—The expenditure during the year was Rs. 10,391 and to the end of the year was Rs. 27,357.

(18) *Extension of Relangi channel for the irrigation of lands in Garagaparru, etc., villages (Estimate Rs.* 13,600).—Approximate ayacut 290 acres. The expenditure incurred during the year was Rs. 7,497). The work has been completed.

(19) *Providing irrigation facilities to Kalavapudi lands (Estimate Rs.* 2,28,000).—Approximate ayacut 2,380 acres. Expenditure during the year was Rs. 58,165 and to the end of the year Rs. 87,563. The work was completed during the year.

(20) *Remodelling the Kodamanchilli channel of bank canal (Estimate Rs.* 82,900).—Approximate ayacut 610 acres. The work was in progress during the year. The expenditure during the year was Rs. 13,122 and to the end of the year Rs. 13,232.

(21) *Providing irrigation facilities for certain dry lands in the Yeditha village under Yeditha channel by improving Savarambodhi Channel (Estimate Rs.* 25,200).—Approximate ayacut 382 acres. The expenditure during the year was Rs. 3,341. The work was in progress during the year.

(22) *Excavating Kondapadu channel and its branches from Junction canal above Muddapuram Lock (Estimate Rs.* 82,000).—Approximate ayacut Rs. 1,455 acres. The expenditure during the year was Rs. 12,165 the expenditure to the end of the year being Rs. 27,668. The work has been completed.

B. Other works—(3) *Remodelling Pallamkurru Nos.* 1 *and* 2 *channels of bank canal and forming flood bank and constructing outfall sluices for Kandikuppa and Pallamkuru drains (Estimate Rs.* 1,28,834).—An expenditure of Rs. 14,383 was incurred during the year and the expenditure to the end of the year was Rs. 52,465. The work was in progress during the year.

(4) *Protecting the front and rear aprons of Gannavaram aqueduct with R.C. sheet piles (Estimate Rs.* 7,67,000).—An expenditure of Rs. 1,10,240 was incurred during the year. The work is in progress.

(5) *Remodelling Achanta channel and its branches (Estimate Rs.* 12,690).—An expenditure of Rs. 1,495 was incurred during the year. The work was in progress during the year.

(6) *Improvements to Yenamadurru drain from* 5/2 *to* 32/3 *(Estimate Rs.* 2,04,000).—The expenditure during the year and to end of the year were Rs. 3,102 and Rs. 1,55,725 respectively. The work is nearing completion.

(7) *Forming a new tank at Yerakampeta and excavating supply channels (Estimate Rs.* 14,600).—The expenditure to end of the year was Rs. 12,115. The work was in progress during the year.

III. Kistna Delta System—*A. Grow More Food works*—(23) *Improvements to the Enikipad aqueduct (Estimate Rs.* 24,000).—Ayacut benefited 20,000 acres. The work was started during the year and was practically completed. The expenditure incurred on the work was Rs. 16,016.

(24) *Improvements to the Bapatla East Swamp drain and undertunnel at Karlapalem Channel (Estimate Rs.* 57,500).—Approximate ayacut 400 acres. The work was started in the year and an expenditure of Rs. 3,060 incurred.

B. Other Works.—(8) *K.E. Bank Canal Extension scheme (Estimate Rs.* 28,49,320).—The expenditure during the year was Rs. 24,986 and to the end of the year Rs. 27,96,088.

(9) *Improvements to Peddalanka channel (Estimate Rs.* 4,28,690).—The outlay during the year was Rs. 603 and the expenditure to end of the year was Rs. 4,08,399.

(10) *Excavating the K.W. High Level channel* (*Estimate Rs.* 5,82,563).—The outlay during the year was Rs. 9,015 and the expenditure to end of the year was Rs. 5,64,781.

(11) *Extending the wharf at Bezwada below the girder bridge of the K.E. Delta Main Canal* (*Estimate Rs.* 1,13,200).—There was a minus outlay of Rs. 221 on the work. There is still some balance of work to be done and this will be taken up when iron materials become available. The total up-to-date expenditure is Rs. 86,055.

(12) *Improvements to the New Tamarakollu channel* (*Estimate Rs.* 21,390).—The expenditure during the year was Rs. 6,942, and to the end of the year Rs. 13,286.

(13) *Providing irrigation facilities to Bandar Fort Block* (*Estimate* Rs. 24,860).—The outlay during the year was Rs. 2,984 and to end of the year Rs. 15,485.

(14) *Extending the existing irrigation sources for the irrigation of non-guaranteed wet lands of Mallavole Rudravaram, etc., villages* (*Estimate Rs.* 21,150).—Expenditure during the year was Rs. 3,301 and to the end of the year Rs. 13,244.

(15) *Excavation of new Arthamur channel* (*Estimate Rs.* 19,600).—The outlay during the year was Rs. 1,298 and to the end of the year Rs. 12,564.

(16) *Excavation of the new Nidamanur channel* (*Estimate Rs.* 19,100).—The expenditure during the year was Rs. 1,867 and to end of the year Rs. 13,080.

IV. Pennar River Canals System—*B. Other works*—(17) *Fitting up falling shutters to the Sangam Anicut and extending irrigation under the Kanigiri Reservoir* (*Estimate Rs.* 1,78,100).—The expenditure during the year was Rs. 1,746 and to end of the year Rs. 1,20,438. The work is practically completed.

V. Mopad Reservoir System—*A. Grow More Food works*—(25) *Constructing an anicut across the Pillaperu and excavating a channel to fall into the Mopad Main Channel* (*Estimate Rs.* 1,10,000).—Approximate ayacut 603 acres. The expenditure during the year was Rs. 54,382 and to end of the year Rs. 1,06,420. The work was practically completed.

VI. Kattalai System—*B. Other works*—(18) *Excavating the Kattalai High Level Channel* (*Estimate Rs.* 15,91,000).—The outlay during the year was Rs. 8,000 and Rs. 15,13,351 to the end of the year.

Uduthorahalla Scheme (26)—*A. Grow More Food works—Construction of an anicut across the Uduthorahalla river, Kollegal taluk* (*Estimate Rs.* 2,11,100).—Approximate ayacut 800 acres. The work has been completed in all respects and an expenditure of Rs. 1,97,355 was incurred.

Nagavalli River System—*B. Other works*—(19) *Excavating Kumarigunta distributary* (*Estimate Rs.* 27,640).—The expenditure incurred during the year was Rs. 6,905 and the expenditure incurred to the end of the year was Rs. 21,857.

Navigation Works—*Buckingham Canal System*—(1) *Provision of a wharf between Trevelyan Basin and Basin bridge* (*Estimate Rs.* 2,25,000).—The expenditure during the year was Rs. 7,234 and to the end of the year Rs. 2,13,432. The main work is completed. The water-supply connexions to overhead tanks have to be done by the Madras Corporation.

(2) *Improvements to the Madras wharf at Basin Bridge* (*Estimate Rs.* 2,45,582).—The expenditure during the year was Rs. 43,056 and to the end of the year Rs. 1,62,679. The work was almost completed by the end of the year.

II. Irrigation Works for which Capital and Revenue Accounts are not kept.

A. Grow More Food works—*Anantapur district*—(1) *Restoration of the Gazulapalle tank* (*Estimate Rs.* 1,37,830).—Approximate ayacut 130 acres. Expenditure during the year was Rs. 28,820 and to end of the year was Rs. 1,25,427. The work has been completed.

(2) *Formation of a new tank in Motor Chintalapalle village* (*Estimate Rs.* 36,200).—Approximate ayacut 97 acres. Expenditure during the year was Rs. 3,185 and to end of the year was Rs. 36,152. The work has been completed and part of the ayacut brought under irrigation during the irrigation season.

(3) *Restoration of a ruined tank in Titakal village, Kalyandrug taluk (Estimate Rs.* 32,600).—Approximate ayacut 80 acres. Expenditure during the year was Rs. 27,845 and to end of the year Rs. 29,844. Except raising the surplus weir other items of work were completed during the year.

Bellary district—(4) *Restoration of Rayapuram tank (Estimate Rs.* 1,15,000).—Approximate ayacut 220 acres. Expenditure incurred during the year was Rs. 42,360 and to end of the year, Rs. 1,13,084. The work has been completed except for a gap in the surplus weir which is left as a factor of safety for further consolidation of bund.

(5) *Restoration of the breached Mallapanakeri tank of Kurugodu village (Estimate Rs.* 45,000).—Approximate ayacut area 200 acres. The work was started in August 1944 and an expenditure of Rs. 6,488 was incurred during the year.

Kurnool district—(6) *Chinnatekkur Project (Estimate Rs.* 6,20,000).—Approximate ayacut 500 acres. The expenditure during the year was Rs. 3,62,158 and to end of the year, Rs. 5,62,972. The work has almost been completed.

(7) *Gargeyapuram Reservoir Project (Estimate Rs.* 1,65,740.)—Approximate ayacut 200 acres. The expenditure during the year was Rs. 29,925 and to end of the year Rs. 1,52,313. The work has almost been completed. About 100 acres were brought under irrigation in the irrigation season.

(8) *Constructing a reservoir across the Paleru at Owk (Estimate Rs.* 4,74,100).—Approximate ayacut 350 acres. Expenditure during the year was Rs. 2,05,292 and to end of the year Rs. 4,38,413. The work has almost been completed.

Cuddapah district—(9) *Vogur Vakamada Project (Estimate Rs.* 2,57,400).—Approximate ayacut 1,173 acres. Expenditure during the year was Rs. 1,28,863 and to the end of the year, Rs. 2,09,560. The work has almost been completed and about 450 acres out of an expected area of 1,173 acres have been brought under cultivation in the irrigation season.

(10) *Extension of a supply channel to Gotur Malli Devaroya cheruvu (Estimate Rs.* 52,700).—Approximate ayacut 215 acres. Expenditure during the year was Rs. 28,271 and to end of the year Rs. 47,147. The work has been completed and brought to full beneficial use.

(11) *Ecavating a spring channel to irrigate lands in Gangavaram, Vibrahvaram, etc., villages (Estimate Rs.* 23,000).—Approximate ayacut 129 acres. Expenditure during the year was 9,594 and to end of the year Rs. 21,623. The work has almost been completed and about 115 acres out of an area of 129 acres have been brought under irrigation in the irrigation season.

(12) *Improving supplies to the Ganganapalle tank by diverting the Jyothivagu (Estimate Rs.* 39,500.)—Approximate ayacut 200 acres. Expenditure during the year was Rs. 20,062 and to end of the year Rs. 39,731. The work was completed and brought to beneficial use.

Chittoor district—Restoration of Beerappa cheruvu (Estimate Rs. 4,15,000).—Expenditure during the year was Rs. 3,33,184 and to end of the year Rs. 3,89,458. The weir portion of the work was nearly completed this year. The ultimate ayacut of 430 acres under the tank is likely to be brought under irrigation next season.

Nellore district—(13) *Forming a new tank in Mogal cherla village (Revised Estimate Rs.* 1,58,400).—Approximate ayacut area 250 acres. Expenditure during the year Rs. 66,931 and to end of the year Rs. 1,01,987. The work has almost been completed.

(14) *Pambaleru Project—(Estimate Rs.* 70,000).—Approximate ayacut 650 acres. Expenditure during the year was Rs. 30,291 and to end of the year Rs. 61,267. The work was completed.

Chingleput district—(15) *Constructing an anicut across the Ninjal Maduvu and excavating a supply channel to the Ponvilanthakalathur tank (Estimate Rs.* 5,34,750).—Approximate ayacut 1,226 acres. Expenditure during the year was Rs. 29,994.

Trichinopoly district—(16) *Constructing an anicut across the Siddamalle odai and improvements to the supply channel to Kovathatai tank (Revised Estimate Rs.* 95,500).—Approximate ayacut 192 acres. The expenditure on the work was Rs. 65,910. The work was completed with the exception of certain sundry items.

(17) *Restoration of Ponner tank in Udayarpalayam taluk* (*Revised estimate Rs.* 6,25,000).—Approximate ayacut 144 acres. The expenditure on the work to the end of the year was Rs. 3,88,585. The work is almost completed. Irrigation facilities such as field channels are to be provided for.

(18) *Formation of a tank across Uppar Odai in Omandur village* (*Revised estimate Rs.* 2,91,170).—Approximate ayacut 377 acres. The expenditure on the work to end of the year is Rs. 2,23,210. The work has been completed with the exception of some sundry items.

Coimbatore district—(19) *Restoration of the Nilambur tank* (*Estimate Rs.* 2,37,600).—Approximate ayacut 400 acres. The work was almost completed and about 40 acres were brought under cultivation. The expenditure incurred so far was Rs. 85,624.

B. Other works—Nellore district—(1) *Formation of a new tank in Gundamadakala village* (*Estimate Rs.* 84,500).—The outlay during the year was Rs. 79 and to end of the year, Rs. 84,046. The work was completed.

(2) *Constructing a dam across Venkatagiri river below Chennur tank supply channel* (*Estimate Rs.* 23,625).—Expenditure during the year was Rs. 6,960 and to end of the year Rs. 16,129. The work was completed.

Navigation works—(1) *Constructing a regulator across the Cooum rivers at its head near Kesavaram anicut* (*Estimate Rs.* 2,97,000).—Expenditure during the year Rs. 76,497.

(2) *Forming a flood bank from 5/3 of west bank of North Buckingham Canal to Kuthirai Kothalamnatham* (*Estimate Rs.* 1,07,500).—Expenditure during the year was Rs. 76,497.

(3) *Improvements to the west flood bank of North Buckingham Canal 5/3 to 10/2* (*Estimate Rs* 2,33,000).—Expenditure during the year was Rs. 1,68,351.

Items 3, 4 and 5 above were works carried out as per the recommendation of the Special Superintending Engineer appointed for the investigation of the causes of the floods in the Madras City during 1942. These works were nearing completion at the end of the year.

B. Season, Rainfall and Supply.

Godavari Delta System.—Water-supply during the first crop season was adequate and the crops gave a good yield. There was loss of crop in the tail reaches and Collair regions in Godavari Western Delta where there was loss of crop due to floods, but this was made good by grant of second crop cultivation under additional areas. During the second crop season water-supply was sufficient in January and February, but in March and April owing to low river conditions there was scarcity of water-supply and irrigation by turn had to be arranged with great difficulty. An additional area of about 25,525 acres was also thrown open for second crop cultivation. Besides this, the Kalavapudi Branch having an ayacut of 2,090 acres was also thrown open for second crop cultivation at the risk of the ryots.

Chicacole Minor River System.—The channels affected by the cyclone of 1943 were restored to normal conditions and second crop was granted to compensate for the loss caused by the cyclone. No difficulty for water was felt as water regulation was carried out as per sanctioned turns.

Nagavalli River System.—Water-supply was sufficient in the Nagavalli main channel to meet the demands. The conditions under the system are improving and efforts are being made for adequate supply of water by way of granting additional pipes. Reclamation of waste lands and grants of additional water-supply facilities are being made. There was second crop irrigation under the system.

Kistna Delta System.—Freshes were received in the Kistna only in July and the highest flood level of 12·8 feet was recorded on 21st July 1944. Owing to late supply in the year, seed beds could not be raised earlier and transplantation was late by three weeks, owing to the late arrival of rains. Transplantation was however completed by the end of August 1944, as there was good rainfall in July and August. The crops thrived well and the yield also was fair except in certain villages in Kaikalur taluk where the standing crops were damaged by the floods in the Collair lake in October 1944.

Kistna East Bank Canal.—Owing to non-completion of some closure works, the canal was actually opened on 19th June 1944 though the usual date of opening was the 15th of May. Water reached the tail, end of the Divi island on 19th June 1944. Owing to a flood level of 12·8 feet over the anicut, the supply was limited to 600 cusecs in the Kistna East Bank canal for the irrigation of main land and direct supply was taken from the Kistna river through surplus vents from 20 to 23rd July 1944 for the ayacut in the Divi island. Transplantation was begun in the last week of June 1944 and completed by middle of August 1944. Water for irrigation was stopped on 30th November 1944. There was adequate supply of water during the year for paddy crops and the yield was good.

Ceded districts—Madanapalle division.—The repairs to flood damage to the Nagavaram anicut and to the several flood banks damaged by the unprecedented cyclonic rains of May 1943 were completed during the year. No damage on account of floods occurred during the year.

Kurnool division.—There was a fair supply of water in Kurnool-Cuddapah canal except in the latter half of August 1944, when some difficulty was experienced in Proddatur subdivision and internal turn system had to be introduced to tide over the situation. There were untimely rains in the Nandyal subdivision in July and October 1944. The tanks received very fair supplies of water in November 1944 and cultivation was also fairly satisfactory.

In Bellary district, the rainfall was fairly good and adequate. The yield from paddy and sugarcane was generally satisfactory.

The seasonal conditions in Chittoor and Cuddapah districts were also fair.

Pennar River Canals System.—The average rainfall in the delta was 51·63″ against 59·53″ in the previous year. The maximum water level of Nellore tank was 10·8′ on 19th November 1944 against the F.T.L. of 16·3′. The maximum water levels of the Survepalli reservoir and Kanigiri reservoir were 10·8′ on 19th November 1944 and 21·45′ on 10th December 1944 respectively.

The year was fairly good and there were timely freshes in the river enabling supply for irrigation in proper time. Moderate and timely rains facilitated raising of crops in the proper season and the freshes gave copious supply to the standing crops. The crops were successful and the yield fairly good. Second crop was allowed for a total extent of 19,280 acres in both Sangam and Nellore Deltas.

Cauvery Delta System.—The condition of the season was good and there was no difficulty in irrigation.

Grand Anicut Canal.—The system was opened early in the season and liberal supply was made available throughout. The ryots were given numerous special facilities such as temporary pipes sluices, excavation of field bothies at Government cost, etc. and consequently there was a striking increase in the development of irrigation during the year.

Willingdon Reservoir.—The reservoir maintained a good storage throughout the year. On the 1st April the level on gauge was 1920. Though the level dropped to 11·95 on the 6th October it regained during the good rains in the months of November and December 1944 and the level rose to 28·30 on the 14th November 1944.

Periyar System.—The irrigation season of 1944-45 started with a lake level of 135·50 on 16th May 1944. The reservoir level went down to 122·00 on 24th July 1944, rose gradually to 128·10 on 2nd August 1944, fell down again to 121·30 on 11th September 1944 and continued to be low with slight rises and falls till 19th October 1944 when it was 125·80. The lake rose rapidly to 152·00 (F.R.L.) on 23rd November 1944 and surplussed on 11th December 1944 whereafter it went down gradually. The average rainfall in the catchment of Periyar lake during the year was 72·14 as against 119·36 during 1943–44. In the Periyar Delta proper, it was 37·77 against 31·51 in the previous year. The monsoon was less than average in the Periyar lake catchment, the south-west monsoon being almost a failure and the north-east monsoon being moderate. The rainfall in Periyar delta and the Cumbum valley was slightly above the average.

Tinnevelly division.—The season, in Tinnevelly division, was not good and supply was not adequate.

C. Closure of Canals.

The following tables show the dates of closure and re-opening of canals in the Godavari and Kistna Deltas :—

Name of canal.	Date of closure.	Date of opening.
	Godavari Delta.	
Eastern Delta canals—		
(*a*) All canals except Main canal and Cocanada canal ..	1st May 1944, 6 A.M.	1st June 1944, 6 P.M.
(*b*) Main canal and Cocanada canal	1st May 1944, 6 A.M.	8th May 1944, 6 P.M.
Central Delta canals	15th April 1944 ..	15th May 1944.
Western Delta canals	1st May 1944 ..	1st June 1944.

NOTE.—The Main and Cocanada canals were closed for about a week for notchu clearance and water was allowed in the remaining three weeks of the closure period to make them navigable for conveyance of quarry materials for Military works at Cocanada.

Name of canal.	Date of closure.	Date of opening.
	Kistna Delta.	
Kistna Eastern Delta—		
Main canal	15th April 1944	1st June 1944.
Ryves canal	1st March 1944	Do.
Bandar canal	15th April 1944	Do.
Ellore canal	Do.	4th June 1944.
East Bank canal	1st March 1944	10th June 1944.
Kistna Western Delta—		
Main canal	Not closed. Kept open all through the year.	
Commamur canal	Not closed. Kept open all through the year.	
Nizamapatam canal	15th April 1944	1st June 1944.
Bank canal	15th February 1944 ..	Do.

NOTE.—Though the usual date fixed for re-opening of Kistna East Bank canal is 15th May, it was actually opened on 10th June 1944 at 6 p.m. as the work of widening Kistna East Bank Canal below Enamalakudurru Lock taken up in the closure for execution could not be finished earlier. The closure of Nizampatam canal originally scheduled as 1st February 1944 had to be postponed till 15th April 1944 to facilitate transport of firewood to Tenali. Unlike in the previous two years, Ellore and Kistna East Bank Main Canals were closed in 1944–45 in order to carry out some urgent works that could not be postponed.

D. Industrial Crops.

The area cultivated with sugarcane during the year was 37,078 acres (chiefly) in the Tanjore and Trichinopoly districts. The area under indigo cultivation was 7,403 acres under the Pennar river canals systems against 5,473 in the previous year.

E. General Report on Works for which Capital and Revenue Accounts are not kept.

I. Irrigation Works.

The number of works in this class during the year was as shown below :—

	Channels.	Tanks.	Other works.	Total.
In charge of the Public Works Department ..	671	2,309	118	3,098
In charge of the Revenue Department	5,335	24,415	1,806	31,576
Total ..	6,026	26,724	1,924	34,674

2. The area irrigated, the outlay and the revenue derived from works of this class are dealt with in paragraph 4 of Chapter V.

3. The statement below shows the details of outlay by minor heads incurred during 1944–45 on these works.

Statement showing by minor heads the expenditure incurred on works for which no capital accounts are kept for the year 1944–45.

Minor heads.	Ordinary minor works. Public Works Department works.	Ordinary minor works. Revenue Department works in charge of the Public Works Department.	Old maintenance charges.	Tank Restoration scheme works.	Total.
	RS.	RS.	RS.	RS.	RS.
Works	21,16,733	..	..	..	21,16,733
Extensions and improvements.	77,563	..	1,01,044	..	1,78,607
Maintenance and repairs ..	18,23,110	1,28,228	5,93,500	4,828	25,49,666
Establishment	8,27,134	26,272	1,95,901	1,279	10,50,586
Tools and plant	19,403	705	2,336	31	22,475
Miscellaneous expenditure.	5,31,163	..	..	..	(a) 5,31,163
Total ..	53,95,106	1,55,205	8,92,781	6,138	64,49,230
Add outlay incurred by Civil officers on minor irrigation works.	..	..	..	..	(b) 14,90,009
				Grand total ..	79,39,239

(a) Represents outlay on other charges, establishment and tools and plant.

(b)	RS.
Works	7,930
Maintenance and repairs	11,45,723
Establishment	3,36,052
Tools and plant	304
Total ..	14,90,009

4. The particulars of revenue from the works during the year are compared below with those of the previous year 1943–44 :—

	1943–44.	1944–45.
	RS.	RS.
Irrigation revenue	1,08,37,868	1,09,90,332
Receipts collected by the Public Works Department.	64,486	72,550
Total ..	1,09,02,354	1,10,62,882

5. The net revenue of the year after deducting working expenses amounted to Rs. 52,98,731 against Rs. 88,15,310 in the previous year.

6. The progress made in the investigation and execution of Tank Restoration scheme works is dealt with in paragraph 5 (*b*) of Chapter V. The following table shows by districts the works done during and up to the end of 1944–45 :—

Tank Restoration Scheme Works.

Circle.	District.	Approximate area investigated. During 1944–45.	Approximate area investigated. To the end of 1944–45.	Number of estimates sanctioned. During 1944–45.	Number of estimates sanctioned. To the end of 1944–45.	Amount of estimates sanctioned. During 1944–45.	Amount of estimates sanctioned. To the end of 1944–45.
			SQ. MILES.			RS.	RS.
Dowlaishwaram.	Vizagapatam ..	..	1,350	..	503	..	15,92,341 (Vizagapatam, East Godavari and West Godavari together)
	East Godavari.	..	152	..	928	..	
	West Godavari.	..	2,412	..	..	..	
Bezwada ..	Kistna ..	..	1,491	..	160	..	2,40,888
	Guntur ..	..	4,411	..	257	..	2,04,724
Anantapur ..	Kurnool ..	..	7,648	..	340	..	3,33,682
	Cuddapah ..	14	4,664	14	1,357	50,870	12,69,689
	Anantapur ..	4	7,834	..	789	..	10,69,692
	Bellary ..	..	10,518	..	251	..	3,44,321
	Chittoor ..	49	5,142	28	2,100	51,470	33,23,516
Madras	Nellore ..	..	7,300	..	474	..	6,13,994
	Chingleput ..	..	2,227	..	602	..	5,86,118
	North Arcot ..	..	..	..	..	..	..
Coimbatore ..	North Arcot ..	..	4,659	1	2,011	200	27,20,767
	Coimbatore ..	..	8,097	..	151	..	3,10,986
	Salem	..	6,052	..	1,273	..	11,36,457
Tanjore ..	South Arcot ..	..	850	..	724	..	16,33,215
	Tanjore ..	..	1,140	..	610	..	7,94,940
Trichinopoly ..	Trichinopoly ..	..	4,564	..	601	..	12,37,649
	Madura ..	..	4,836	..	1,644	..	14,95,984
	Tinnevelly ..	..	1,969	..	969	..	13,42,766
	Ramnad ..	..	1,643	..	3	..	2,33,325
Total ..		67	88,959	43	15,747	1,02,540	2,04,85,054

II. Navigation, Embankment and Drainage Works.

The receipts realized by the sale of plantation and produce of trees along river embankments amounted to Rs. 1,27,368 against Rs. 1,44,103 in the previous year.

The expenditure on maintenance works was Rs. 10,99,285 against Rs. 6,38,247 in the previous year as detailed below :—

	1944-45.	1943-44.
	RS.	RS.
Works	4,63,408	12,209
Extensions and improvements	14,356	75,974
Maintenance and repairs	4,65,762	4,10,871
Establishment	1,46,465	1,37,000
Tools and plant	8,587	1,207
Other charges	707	986
Total ..	10,99,285	6,38,247

Chapter V.

Personnel, Classification of Works and Financial Results.

Personnel.

Sri Diwan Bahadur N. Govindaraja Ayyangar continued as the Chief Engineer for Irrigation throughout the year.

Sri N. Padmanabha Ayyar continued as the First Deputy Chief Engineer for Irrigation till 22nd April 1944, *f.n.* when he proceeded on transfer as the Superintending Engineer, Anantapur Circle. Sri A. R. Venkataraman, the Second Deputy Chief Engineer, took charge on the same day as the First Deputy Chief Engineer and continued to hold the post throughout the rest of the year.

Sri V. Arunachalam took charge of the post of the Second Deputy Chief Engineer from Sri A. R. Venkataraman on 22nd April 1944, *f.n.* and held the post till 30th August 1944, *a.n.* when he was transferred. Sri A. R. Venkataraman, First Deputy, held additional charge of the post till 14th September 1944, *a.n.* when Sri R. Srinivasa Acharya joined duty and continued as Second Deputy till the end of the year.

Classification of Works.

Irrigation works in the Province are classified as shown below :—

(*a*) Works for which capital and revenue Accounts are kept.

A. Irrigation works—

(i) Productive works.

(ii) Unproductive works.

B. Navigation, Embankment and Drainage works—

(i) Productive works.

(ii) Unproductive works.

(*b*) Works for which capital and revenue Accounts are not kept.

(i) Irrigation works.

(ii) Navigation, Embankment and Drainage works.

A, work is classified as productive or unproductive on the financial results of three consecutive years. There are no works in the Province at present under "B. Navigation, Embankment and Drainage Works—Productive ".

Financial Results.

1. The total outlay on irrigation works during the year was Rs. 1,78,93,803 against Rs. 1,27,72,630 in 1943-44. The total revenue realised was Rs. 3,78,01,827 against Rs. 3,71,64,039 in the previous year. The area charged as irrigated was 8,452,355 acres against 8,385,475 acres in the previous year. The net revenue after deducting working expenses was Rs. 1,77,29,055 against Rs. 2,22,82,891 in the previous year. The expenditure figures include indirect charges. If direct charges alone are considered the expenditure during the year was Rs. 153·84 lakhs against the budget allotment of Rs. 83·80 lakhs. The total area in the Province during 1944-45 under the chief food and industrial crops both irrigated and unirrigated was 36,999,372 acres against 37,704,612 acres or 705,240 acres less than in the

previous year. The area irrigated by Government irrigation works was 8,452,355 acres or 22·57 per cent of the total cropped area. This area was more than the acreage of the previous year by 66·880 acres. The increase is mainly due to the keeping of the Grow More Food Campaign.

2. *I. Productive works.*—The capital outlay during the year was Rs. 8,95,455 and to end of the year Rs. 15,46,41,273. The area charged as irrigated was 4,546,603 acres and the estimated value of crops raised Rs. 52,76,91,836. The net revenue derived was Rs. 1,32,82,608 representing a return of 8·59 per cent on the capital outlay. The accumulated profits to the end of the year amounted to Rs. 34·58 crores.

II. Unproductive works.—The capital outlay during the year was Rs. 2,09,508 and to end of the year Rs. 4,20,67,058. The area charged as irrigated was 4,33,385 acres and the estimated value of crops raised Rs. 4,24,75,128. The net revenue derived was Rs. 1,71,969 representing a return of 0·41 per cent on the capital outlay.

III. Minor works for which Capital and Revenue Accounts are not kept—(*a*) *Irrigation works.*—There were 34,674 works in this class against 34,662 works in 1943–44. The outlay on them during the year was Rs. 79,39,239 against Rs. 52,51,776 in the previous year. The area charged as irrigated was 3,472,367 acres.

(*b*) *Navigation, etc., works.*—The outlay incurred was Rs. 10,99,285 and the revenue derived Rs. 1,27,368 against Rs. 6,38,247 and Rs. 1,44,103 respectively in the previous year.

3. *A. Irrigation works—Productive.*—(1) There were 24 works in this class, the same as in the previous year. The canals in the Godavari and Kistna Delta systems are used both for irrigation and navigation. The remaining works are for irrigation only.

(2) The total length of the main and branch channels at the end of the year was 3,264$\frac{5}{8}$ miles. Of this length, 911$\frac{3}{8}$ miles were for irrigation and navigation combined and the remainder for irrigation only. The length of the distributaries was 9,528 $\frac{7}{12}$ miles.

(3) The capital outlay (direct and indirect) during the year was Rs. 8,95,455 as against Rs. 5,36,844 in the previous year. The bulk of the expenditure was incurred on the Godavari and Cauvery Delta systems, while an expenditure of Rs. 42,404 was incurred on the Tungabhadra Project. The Cauvery Mettur Project had a credit of Rs. 1·89 lakhs by the sale of special tools and plant. Details of works carried out are given in Chapter IV.

(4) The total area charged as irrigated was 3,719,054 acres first crop and 827,549 acres second crop against 3,691,744 acres first crop and 739,447 acres first and second crop respectively in the previous year. The increase in the first crop was spread over almost all the systems except the Godavari Delta and Lower Coleroon Anicut systems where slight decreases had occurred. Increase in the second crop area was mainly under the Godavari Delta, Kistna Delta and Cauvery Mettur systems, of which the increase under Kistna Delta system was marked.

(5) The gross working expenses of the year were Rs. 58,72,949 against Rs. 58,08,216 in the previous year.

(6) The gross revenue of the year was Rs. 2,47,84,253 against Rs. 2,42,99,202 in the previous year. The increase was appreciable in the case of the Cauvery Delta system, Cauvery Mettur Project and Kistna Delta system.

(7) The net revenue derived and the net profits after deducting interest charges amounted to Rs. 1,32,82,608 and Rs. 66,51,825 against Rs. 1,39,55,656 and Rs. 73,55,051 respectively in the previous year. The net profit works out to 4·30 per cent on the capital outlay of Rs. 15,46,41,273 against 7·51 per cent 25 years ago (i.e.) 1919–20.

(8) The estimated value of irrigated crops raised during the year amounted to Rs. 52,76,91,836 against Rs. 47,96,21,025 in the previous year.

(9) The average revenue per acre amounted to Rs. 5·45 on the gross area and Rs. 8·14 on the new irrigation. The working expenses per acre were Rs. 1·29 on the gross area and Rs. 1·93 on the new irrigation.

(10) The remissions granted during the year amounted to Rs. 3,40,863 against Rs. 3,22,796 in the previous year. The areas affected were mainly in the Godavari and Kistna deltas.

4. *A. Irrigation works—Unproductive.*—(1) There were 33 works of this class in the year the new works being the Uduthorahalla scheme, the Mahadevapuram tank project and the Tungabhadra project. The Kurnool Cuddapah canal is used both for irrigation and navigation, navigation being confined to the first 74 miles. The other works are purely irrigation works.

(2) The capital outlay (direct and indirect) during the year was Rs. 2,09,508 against Rs. 1,08,046 in the previous year. The bulk of the expenditure was incurred on the Uduthorahalla scheme and the Mopad Reservoir system.

(3) The total length of the main and branch channels at the end of the year was $1,329\frac{5}{8}$ miles of which 74 miles were for irrigation and navigation combined and the remainder for irrigation only. The length of the distributaries was $896\frac{15}{16}$ miles.

(4) The area charged as irrigated was 433,385 acres against 443,670 acres in the previous year.

(5) The gross working expenses amounted to Rs. 11,17,475 against Rs. 8,04,994 in the previous year.

(6) The gross revenue amounted to Rs. 16,91,282 against Rs. 16,82,269 in the previous year.

(7) The net revenue due to improvements was Rs. 1,71,909 against Rs. 5,46,060 in the previous year. This represents a return of 0·41 per cent on the capital outlay of Rs. 4,20,67,058 to end of the year. The net revenue fell short of the interest charges by Rs. 16,62,796 of which Rs. 7,97,203 pertained to the K.C. canal and Rs. 4,65,288 to the Palar Anicut system representing the bulk of the deficit. The percentage of deficit in these cases was 3·49 and 18·69 respectively on the capital outlay.

(8) The estimated value of crops amounted to Rs. 4,24,75,128 against Rs. 4,17,81,379 in the previous year.

(9) The average revenue per acre amounted to Rs. 3·90 on the gross area and Rs. 6·20 on new irrigation. The working expenses per acre were Rs. 2·58 on the gross area and Rs. 4·25 on new irrigation.

(10) The remissions granted during the years amounted to Rs. 18,437 against Rs. 21,105 in the previous year. The area affected was in the Muniyeru and Palar Anicut systems.

4. *B. Navigation—Embankment and drainage works—Unproductive.*—There were two works of this class, viz., the Buckingham and Vedaranyam canals with a total length of $293\frac{3}{4}$ miles. The gross receipts amounted to Rs. 1,36,042 and the charges, Rs. 6,62,064 against Rs. 1,36,111 and Rs. 6,42,571 respectively in the previous year. There was thus a loss of Rs. 5,26,022 against Rs. 5,06,460 in 1943-44 on the working of these canals. As the Buckingham canal had to be kept perfectly navigable throughout the year as an alternative route of traffic, the expenditure on the maintenance of the canal continued to be high during this year also.

4. *C. Navigation canals.*—Navigation was carried on as usual on the Dummagudem, Godavari, Kistna (Kistna East Bank Canal being shown separately for accounts purposes), Kurnool-Cuddapah, Buckingham, West Coast and Vedaranyam Canals. As in the previous year navigation in the Kurnool-Cuddapah Canal was confined to the first 74 miles. The total direct receipts amounted to Rs. 6·14 lakhs showing an increase of Rs. 1·69 lakhs over the figures of the previous year.

5. *Works for which Capital and Revenue Accounts are not kept*—(1) *Irrigation works.*—(a) The outlay incurred on the area irrigated by and the revenue derived from the works of this class are compared below with the figures of the previous year (i.e.) 1943–44 and the average of the previous triennium :—

	Outlay incurred.	Area irrigated.	Gross revenue.
	RS.	ACS.	RS.
During 1944–45	79,39,239	3,472,367	1,10,62,882
During 1943–44	52,51,776	3,510,614	1,09,02,354
Average of the triennium ending 1943–44.	37,28,194	3,233,645	88,56,469

The increase in expenditure was due mainly to the execution of large numbers of works in connection with the Grow More Food Campaign.

(b) *Tank Restoration Scheme works.*—The total area falling within the scope of the T.R.S. investigation is 102,500 square miles. Investigations were taken up in basins comprising an area of 94,660 square miles of which 87,630 square miles had been investigated up to 1931 when the T.R.S. divisions and subdivisions were abolished as a measure of retrenchment. Since April 1931 up to end of March 1945 an area of 1329 square miles had been investigated bringing total area investigated to 88,959 square miles. The special staff consisting of 1 subdivision for investigation and one subdivision for execution of Tank Restoration Scheme works in the Pinchanadi minor basin in the Chittoor district and the lower Sagileru minor basin in the Cuddapah district sanctioned by the end of last year was functioning throughout the year. The area investigated during the year was 67 square miles, the number and amount of estimates sanctioned 43 and Rs. 1,02,540 respectively. The areas investigated up to 31st March 1931, 1944 and 1945 represent 85·49 per cent, 86·75 per cent and 86·79 per cent respectively of the total area of 102,500 square miles.

In the areas investigated works have been completed in 85,992 square miles and works are in progress or yet to be started in the remaining area of 2,967 square miles.

The number and amount of estimates sanctioned up to date are shown in the statement in paragraph 6, Section E.I. of Chapter IV. The total amount of estimates sanctioned from the commencement of the Tank Restoration Scheme operations up to end of the year was Rs. 204·85 lakhs against which a total expenditure of Rs. 1,72,14,372 (exclusive of charges for establishment and tools and plant) had been incurred. The expenditure during the year amounted to Rs. 56,134.

(2) *Navigation, Embankment and Drainage works.*—The outlay incurred on and the revenue derived from works of this class are compared below with the figures of the previous year and the average of the previous triennium :—

	Outlay.	Revenue.
	RS.	RS.
During 1944–45	10,99,285	1,27,368
During 1943–44	6,38,247	1,44,103
Average of the triennium ending 1943–44 ..	6,31,075	1,08,961

6. *Projects under consideration.*—Owing to the continued need to Grow More Food, special attention was paid to the investigation of as many irrigation schemes as possible. Of the schemes investigated last year, the scheme for providing irrigation facilities to 653 acres in Razole taluk was sanctioned. The Gundlacamma project has been included in the post-war schemes. The Tungabhadra project was sanctioned for execution.

The major schemes under investigation during the year were the Polavaram Reservoir project (Ramapadasagar project), Gandikota Scheme, the Atleru Reservoir, the Vaigai Reservoir and the alternative proposal to irrigate the area proposed under the Tiruchengode and Namakkal pumping schemes. The investigation of the Budameru reservoir was completed. Brief details of the various schemes are furnished below :—

(1) *Vizagapatam, East Godavari, West Godavari and Kistna districts.*—The preliminary investigation of the reservoir schemes across the Sabari and in the Upper Godavari at Polavaram was completed and the special division itself exception of one subdivision was abolished by the end of December 1944. During the year extensive boring were taken to select the best site for the dam. The services of Mr. J. L. Savage, an American Expert on in High Dams, who was in India at that time were requisitioned and he inspected the site of the Polavaram Dam at the request of the Madras Government. Later, on the suggestion of Mr. Savage the services of Mr. Dunn, the Consulting Engineer of Messrs. Morrisson Company, United States of America, were also obtained to get an authoritative opinion on the exact site and the type of foundations to be adopted for the dam. Two borings were taken in the deep water course also. The Ramayyapeta site about a mile higher up the Polavaram has been selected tentatively. Investigation of the canals was also done and the preliminary report and estimates were prepared and submitted by the Superintending Engineer. The cost of the scheme is roughly estimated at Rs. 60 crores. The Government have since decided that the detailed investigation of the Polavaram Reservoir project, now named Ramapadasagar project, should be taken up.

(2) *West Godavari and Kistna districts.*—Of the schemes taken up for investigation for improving the drainage in the Godavari and Kistna Deltas, the Budameru Reservoir scheme was investigated and plans and estimate amounting to Rs. 200 lakhs were submitted by the Superintending Engineer and were under scrutiny by the Chief Engineer for Irrigation. Improvements to the Peddalanka and Romperu drains estimated to cost Rs. 11 lakhs and 92 lakhs were examined. Plans and estimates for all the above works have since been submitted to the Government.

(3) *Nellore and Ceded districts.*—The Special Division that was engaged in the detailed investigation of the Gandikota project was functioning throughout the year. The results of gaugings done in the monsoon seasons of 1944 disclosed that the yield at the dam site was not encouraging enough to serve both the Cuddapah and Nellore areas. It was, therefore, decided that a smaller reservoir with 14,500 m.cft. to irrigate about a lakh of acres dry in Cuddapah district alone might be designed for the present. Detailed plans and estimates for the purpose are under preparation. However, gaugings were ordered to be taken for 2 or 3 years more for determining the available flow more definitely so that the question of taking up the Nellore canals also might be reconsidered, if feasible.

(4) *Anantapur district.*—Discussions with the Mysore Government preliminary to starting the Pennar Kumudavathi project were continued during the year.

(5) *Nellore district.*—The report on the investigation of the Atleru project was awaited from the Superintending Engineer.

(6) *Salem district.*—The investigation of the pumping scheme in the Tiruchengode and Namakkal taluks of the Salem district showed that it was costly and that there was no cheaper alternative. Hence the feasibility of taking a Mettur Reservoir to supply the ayacut contemplated under the above scheme is under investigation by a special subdivision.

(7) *Madura district.*—The detailed investigation of the Vaigai reservoir scheme (capacity of 4,000 m.cft.) was sanctioned during the year and the special staff posted therefor completed the investigation. The report and an estimate for Rs. 163·5 lakhs submitted by the Superintending Engineer was under scrutiny in the Chief Engineer's (Irrigation) office.

(8) *Tanjore district.*—The full ayacut of the Cauvery-Mettur project not having developed, special steps were taken to accelerate the extension of cultivation under the Grand Anicut Canal. Even after this drive, it was anticipated that there would be some deficit in the ayacut, and to make up for this a proposal was made to extend the Grand Anicut Canal beyond the Narasinga Cauvery to bring in an extent of 15,000 acres under irrigation. A special division with two subdivisions was formed in January 1945 to investigate the scheme. The investigation was in progress at the close of the year, but this has since been completed.

(9) *Vizagapatam district.*—As a result of the detailed investigation by the special staff of the scheme for extension of irrigation under Nagarikatakam channel, it was found that the scheme would cost Rs. 9 lakhs and yield a return of less than one per cent. It has therefore been decided to postpone the scheme till conditions return to normal.

Of the other schemes mentioned in the last year's report, the progress is indicated below :—

(10) *East Godavari district.*—The special staff sanctioned for the investigation of the scheme for the construction of a lock and regulator across the Coringa river and which was not available for investigation last year has since been posted and the investigation has also commenced.

(11) *East Godavari district.*—The estimate for the scheme for providing irrigation facilities to 653 acres in Kesanapalli and Sankaraguptam villages, Razole taluk, was revised by the Chief Engineer (Irrigation) to Rs. 1,00,300 and submitted to the Government for sanction. The Government have since sanctioned the scheme.

(12) *East Godavari district.*—The plans and estimates for the scheme known as Hospital channel extension scheme, for irrigating dry lands and coconut topes in Mungandapalem village, Razole taluk, were returned to the Superintending

Engineer during the year with the remarks of the Chief Engineer for Irrigation for revision and resubmission. They were under consideration with the local officers.

(13) *West Godavari district.*—The alternative proposals called for from the Superintending Engineer for providing irrigation to the ayacut under the Dendalur Pumping scheme and other adjoining blocks from the Kistna-Ellore canal, were awaited from him.

(14) *Guntur district.*—The Gundlakamma project was ordered by the Government to be included in the postwar schemes.

(15) *Guntur district.*—The Superintending Engineer's report on the re-estimation of the discharge figures relating to the construction of a reservoir across the Naguleru river—Mella Vagu project—was awaited.

(16) *Cuddapah district.*—The preliminary investigation of the Pullampet reservoir project which consisted of the formation of two reservoirs one across the gorge at Rayapuram to intercept the water in the Pinchanadi and the Bahudananadi, and another at Gandikota or Virapalli across Mandavyanadi to irrigate an extent of 70,000 acres, showed that it would yield a very low return and was not therefore very promising.

(17) *Cuddapah district.*—Gaugings were continued during the year to be assured of the availability of supply for the proposed ayacut under the breached anicut across the Mekalakunta eri which was proposed to be restored.

(18) *Kurnool district.*—The consideration of the Gazuladinne project was deferred till 2 or 3 years after the Tungabhadra project was completed and the result observed.

(19) *Kurnool district.*—Preliminary report submitted by the Superintending Engineer regarding the Gandivagu and Rallavagu reservoirs was under scrutiny by the Chief Engineer for Irrigation.

(20) *Kurnool district.*—Gaugings were continued in respect of the scheme for constructing a reservoir in Peddavanka in Koilkuntla taluk, Kurnool district.

(21) *Bellary district.*—Plans and estimates submitted by the Superintending Engineer for the restoration of the Marathi tank were under scrutiny by the Chief Engineer for Irrigation.

(22) *Chittoor district.*—The proposals for forming a reservoir across the Bhimanadhi in Chandragiri taluk, were under revision by the local officers.

(23) *Chittoor district.*—Gaugings of the Potlavanka were continued during the year for the formation of a new tank across the Potlavaram in the limits of the Amudalakona reserve forests.

(24) *Chittoor district.*—Investigation connected with the construction of an anicut across the Bahuda river at the head of Erikalva of Siddareddigaripalle village was over and the plans and estimates were under scrutiny by the Chief Engineer for Irrigation.

(25) *Chingleput district.*—The scheme for constructing a masonry dam across Cheyyar to supply to the Uttiramerur tank was ordered to be postponed for the duration of war.

(26) *South Arcot district.*—Further particulars called for from the Superintending Engineer regarding the construction of a reservoir across the Ponniar in South Arcot district were awaited.

(27) *South Arcot district.*—The scheme to construct an anicut across the Thambipettai odai, in Cuddalore taluk, and to excavate a channel for feeding the existing ayacut and also to bring an additional area of 428 acres under irrigation was under consideration.

(28) *Salem district.*—The Superintending Engineer's report on the investigation of the Chinnar project, Salem district, and the preliminary estimates were awaited.

(29) *Salem district.*—The detailed investigation of the Badathalaw project was completed and an estimate for Rs. 6·35 lakhs was submitted to the Government.

As it was not promising from a financial point of view it was recommended to Government that the scheme may be taken up if the ryots were willing to pay a water-rate of Rs. 15 per acre or that if not, it may be postponed to normal times. Government have since postponed the scheme for reconsideration two years hence when the present high costs have fallen.

(30) *The following new schemes were taken up for investigation during the year—East Godavari district.*—A proposal to extend irrigation to a block of about 874 acres beyond the tail end of the Benda No. 2 channel in Komaragiripatnam village in the Amalapuram taluk of the Godavari Central Delta was approved and an estimate amounting to Rs. 86,830 was prepared and submitted to the Government for sanction.

(31) *Guntur district.*—A proposal to construct an anicut across the Kandaleru to excavate a supply channel to feed the Dondapad tank, called the Kandaleru project, for irrigating an additional extent of 500 acres under the tank was considered by the Government and detailed plans and estimates were called for by them. The Superintending Engineer has since submitted the plans and estimates.

(32) *Kistna district.*—A number of schemes for extension of irrigation under the Kistna Delta System was also under consideration during the year. They are:

(i) In order to cope with the growing needs of irrigation under the delta it was proposed to provide a supplemental sluice to the Kistna Western Main Canal and increase the supplies therein. Preliminary proposals estimated to cost Rs. 5 lakhs received from the Superintending Engineer were examined and the Superintending Engineer was asked to revise the proposals.

(ii) A scheme for irrigating about 2,500 acres of assessed waste lands in Vaivaka and Korukollu villages through the Nandiraja Codu Channel was formulated and plans and estimates therefor were awaited from the Superintending Engineer.

(iii) A scheme for excavating a channel from the left Bank of Medur channel to irrigate a block of 777 acres in the Choragudi and Atchampallam, etc., villages was examined and preliminary proposals submitted by the Superintending Engineer were returned to him with Chief Engineer's (Irrigation) remarks. The scheme has since been sanctioned by the Government.

Besides the above, a number of schemes for extension of irrigation under the Kistna Delta System was under examination by the Superintending Engineer and in correspondence with the Executive Engineers.

A special division was constituted from 13th July 1944 for the investigation of certain abandoned schemes in the Ceded districts so that these schemes may, if feasible, be taken up in pursuance of the Grow More Food Campaign. The schemes were in various stages of investigation as noted below :—

(33) *Kurnool district.*—The investigation of a scheme for restoring an old breached tank near Gottipadiya village to irrigate about 300 acres, was completed and plans and estimates were under scrutiny by the Chief Engineer for Irrigation. They have since been submitted to the Government.

(34) *Kurnool district.*—There was a proposal to reclaim about 2,300 acres of lagoons at M. 53/0, 56/0, 59/0 and 60/0 of the K.C. Canal which are now subjected to wide spread submersion by putting up a right bank for the canal and constructing undertunnels and suitable sluices and releasing the land under the waterspread for cultivation, the low level lands being cultivated wet and the upper portions dry. The scheme was investigated and plans and estimates prepared by the local officers. Government have since ordered that the scheme might be taken up as Grow More Food Scheme.

(35) *Kurnool district.*—A scheme for a reservoir across the Bhavani below its confluence with the Garlavanka to irrigate about 1,700 acres was under investigation. This is known as the Ahobilam project.

(36) *Kurnool district.*—A proposal to form a new tank across Kollimagulavagu in Pameru to serve an ayacut of 900 acres, partly paddy and partly orange gardens, was investigated and plans and estimate submitted by the Superintending Engineer.

(37) *Anantapur district.*—The scheme for the formation of a reservoir across the Pennar called the Perur or Upper Pennar project, to bring under irrigation

about 12,500 acres abandoned in 1915, was reinvestigated by a special subdivision and a preliminary report submitted by the Superintending Engineer was under scrutiny by the Chief Engineer for Irrigation.

(38) *Chittoor district.*—A scheme was formulated to supplement the supply to the Nagapatla tank by excavating a channel from the Kalyani river so as to irrigate about 1,500 acres between the Kalyani and Bhima rivers and to augment Tirupathi water supply. Prior to detailed investigation experiments on percolation and evaporation losses were conducted and results studied.

(39) *Chittoor and Anantapur districts.*—A proposal to construct an anicut across the Papaghni river in the limits of Mundlavaripalle village and excavate a supply channel on the right bank to feed a private tank and also to give additional supply to a Public Works Department tank whose F.T.L. would be raised was investigated in detail. The proposals were under review by the local officers.

(40) *Nellore district.*—The Rallapad project which consists of the formation of a reservoir across the river Manneru about 20 miles below the site of the Mopad Reservoir and the excavation of a channel 13 miles long to irrigate about 12,000 acres of wet paddy was ordered to be investigated by Government last year. The special staff for the investigation was posted during the year and the investigation was in progress.

(41) *Malabar district.*—The Shiriya scheme, which consists of the construction of an anicut across the Shiriya river with a channel on the left in the Kasaragod taluk, intended to irrigate an ayacut of about 350 acres was investigated in detail and the plans and estimates were awaited from the Superintending Engineer.

(42) *Tinnevelly district.*—A proposal to excavate a channel from the left side above the Gangaikondan anicut for supplying the Sivalperi tank to irrigate about 2,000 acres under consideration by the local officers. The proposal is expected to cost about Rs. 10 lakhs.

7. *Navigation works.*—With a view to release the pressure on railways and to utilize an alternative means of transport to facilitate the easy movement of rice and firewood, the Buckingham canal had to be kept always in a navigable condition by extensive repairs. A special division was therefore formed for the proper maintenance of the canal and will continue till end of March 1946 for the present.

8. *Grow More Food schemes.*—The investigation of measures to bring under irrigation an extent of 40,000 acres of commanded but unirrigated area of lands in the Cauvery Mettur Project which was mentioned in the last year's report, and the connected works were completed by the end of the year 1944. The special subdivisions formed for this purpose were wound up by the beginning of 1945. The scheme was a complete success and about 60,000 acres were reclaimed. The target figure of 1944 was exceeded and an area of over 52,000 acres was actually brought under cultivation to end of 31st March 1945.

Steps were again taken to reclaim a further area of 15,000 acres of such lands and a special Public Works Department and revenue staff commenced work by February 1945 and an extent of about 5,000 acres was reclaimed by the end of the official year. The concessions which were given last year for the first target of 1944 have been extended by the Government to this year's target of 15,000 acres, and there is every possibility that the area will be actually brought under cultivation, which will go to increase the food production of the Province.

Besides the outstanding scheme mentioned above, the several major schemes taken up for execution in 1943–44 were pushed through vigorously to completion in 1944–45. Also, 13 new major schemes—*vide list appended*—at an approximate cost of Rs. 12·51 lakhs and designed to irrigate an aggregate ayacut of about 7,700 acres were sanctioned during the year. An expenditure of Rs. 27·93 lakhs was incurred during the year on these works.

The Government of India have also come to the assistance of the local Government in taking up Grow More Food Schemes by agreeing to bear 25 per cent of the cost of unremunerative works, subject to a total assistance of Rs. 50 per ton of additional foodgrains produced. A subsidy of Rs. 9,20,000 was granted by the Government of India for the schemes already taken up by the Government.

The Grow More Food drive inaugurated by the beginning of the year 1943 has thus, within two years achieved good results by bringing under irrigation of well over one lakh of acres adding roughly 75,000 tons to the food production of the Province.

9. *Research.*—The Irrigation Research Station sanctioned last year was in existence throughout the year. The Executive Engineer of the division was engaged in the construction and equipment of the laboratory and the building of a static tank for experimental purposes. Pending completion and equipment of the laboratory and the flumes at Poondi, some simple experiments connected with the syphon spillway for Peddadasaripalli tank, Tungabhadra spillway dam, etc., were taken up at the laboratories of the Engineering College, Guindy. Experiments on the dissipation of energy of the discharging water and for the prevention of scour below the structure of the Poondi regulator were conducted on a scale model. To cope with the expanding activities of the station, additional staff of one Assistant Engineer, Assistant Research Officer, and a laboratory Assistant was applied for the sanction of the Government towards the end of the year.

10. *Floods, breaches and accidents.*—The maximum flood over the Dowlaishwaram Anicut during the year was 16 feet on 24th August 1944 at 6 a.m. against 8 feet on 22nd September 1943 and 17·1 feet during 1942 which was the highest flood ever recorded. Owing to high floods there were breaches in the new Peravaram flood bank, which were repaired and the bank strengthened.

But, by far the heaviest damage was the one caused to the Gannavaram aqueduct on the Vynatheyam branch of the Godavari. This is the oldest aqueduct in the Province which has been in existence for the past nearly 100 years. On 24th August 1944 the flood level rose to 25·2 feet at the aqueduct site and owing to heavy scour on aprons, three of the arches (viz.) Nos. 36 to 38, completely collapsed, thereby cutting off supply to an ayacut of 38,330 acres of the Nagaram island. As the crops there would have completely failed if proper supply was not given, emergency temporary arrangements were made to restore water-supply by erecting a trough costing Rs. 56,000. The work was commenced on 5th September 1944 and completed by 21st September 1944 and water-supply restored within four weeks of the collapse. Nearly 80 per cent of first crop and about 15,000 tons of paddy and revenue of Rs. 2 lakhs were saved. This temporary structure was subsequently removed to admit of permanent reconstruction work. To ensure supply during the second crop season a bye pass 40 feet away on the downstream side was provided under an estimate sanctioned for Rs. 1,62,000 and water was let down on 15th January 1945 to irrigate about 10,000 acres of second crop. As regards the reconstruction of the collapsed vents an estimate for Rs. 6,00,000 was sanctioned in January 1945. The work was started immediately. Well sinking was pushed through rapidly and most of the required quantities of steel, cement, etc., were obtained by 31st March 1945.

The work was rushed through day and night. The design for the reconstruction of the vents provides for a roadway of 21 feet at a cost of Rs. 1·25 lakhs and the front and rear aprons are to be protected with R.C. piles. It has been proposed to improve the other 45 vents of the existing aqueduct and provide a 21 feet roadway thoroughout. Thorough repairs to the aprons are contemplated and will be completed in 2 or 3 seasons. The existing foundations of the aqueduct and aprons are also proposed to be protected with R.C. sheet piles 20 feet deep driven in front and rear under a separate estimate sanctioned for Rs. 7,67,000. The driving of sheet piles in front was in progress during the year under review.

Damage due to heavy rains occurred on 11th October 1944 to the Periyakavandan anicut in Trichinopoly division, breaches also occurred at about the same time to the Sathangudi supply channel and the Aripatti and Valandoor tanks. These breaches were restored at a cost of Rs. 15,965.

A lascar of the Owk tank was drowned in the tank on 4th October 1944 while swimming to reach a sluice which had to be operated on for regulation of water. A passenger boat plying under its sails in the Commamur canal capsized owing to a sudden gust of wind and twenty-two persons, men, women and children were drowned. There was another drowning tragedy on 13th February 1945 at the ferry crossing at M. 27/3 of the Yenamadurru drain where a boat tilted owing to a scramble by students to get into it and capsized and six lives were lost.

11. *Tungabhadra Project.*—The year under review saw the inauguration of the Tungabhadra Project which had been under consideraion in one form or other for several decades. The project was finally investigated in detail by a special Superintending Engineer Sri M. S. Tirumalai Ayyangar and proposals now estimated to cost roughly Rs. 10 crores were drawn up. An agreement was reached between the Hyderabad and Madras Governments on the sharing of the waters. For the first time in the history of India two autonomous units, a Province and a State have for the common good of their two peoples co-operated in a joint endeavour of this magnitude. The inauguration of the project ushers in a new era of prosperity for the Bellary and the Kurnool districts. In its beginnings, the project was conceived as a mighty one calculated to drive away the spectre of famine from the entire Ceded districts. The project has now sanctioned is however only for the partial utilization of the waters and will primarily benefit the Bellary and the Kurnool districts but the provision has even now been made for future expansion of the project.

The reservoir, which consists of a masonry dam about 8,200 feet long and 160 feet high at the deepest level, will be constructed jointly by the two Governments at Mallapuram about three miles north-west of Hospet, the cost of the dam being shared equally by Madras and Hyderabad. The effective capacity of the reservoir will be 113,500 m.c.ft. and the waterspread area 138 square miles. Power is proposed to be developed at two stages, one at the dam site and another at 15 miles below whereas drop of 110 feet will be obtained.

The irrigation canal commencing from below the second stage of the power development will be 210 miles long to irrigate an area of 2·94 lakhs acres of which 36,000 acres will be under wet and garden crops mostly in the valleys, the rest being dry crops. The scheme is designed mainly as a protective work and hence, great importance has been attached to extending irrigation to the maximum area possible with the available supplies. The main dry crops will be cholam, ragi, and similar crops in the mungari season (June to September) and cotton in the hingari season (October to February). The net revenue from irrigation is estimated to about Rs. 12 lakhs and the power revenue at Rs. 8·08 lakhs and the annual value of crops both dry irrigated and wet will be approximately Rs. 5 crores.

As a first step towards taking up of the project for execution, a Superintending Engineer and an Executive Engineer with necessary staff were appointed in December 1944 to attend to the preliminaries, and the staff began to function shortly after. The preliminary work carried out during the year was—

(1) Works connected with the inauguration of the project by His Excellency the Governor of Madras on 28th February 1945 at Mallapuram,

(2) Site surveys for Tungabhadra bridge and layout of camps near site of the proposed dam,

(3) Inspection of sites for power development and the low level canal,

(4) Examination of proposals for designs, and

(5) Conferring with the Chief Engineer of Hyderabad in respect of technical aspects of construction of dams, etc.

The inauguration ceremony was performed by His Excellency the Governor on 28th February 1945 on the Madras side and by the Prince of Berar on the Hyderabad side at the same time.

It was since been decided to take up the excavation of the Low Level Canal and as a preliminary to this two more divisions were formed early in 1945–46.

12. *Character of the season.*—The province is subject to two monsoons, the south-west and the north-east.

The south-west monsoon set in as usual on the West Coast during the first week of June 1944. The rainfall was above the normal in all the districts except Vizagapatam, Kistna and South Arcot. There was however heavy rainfall in August 1944 in the Godavari district, when the Godavari brought in heavy floods causing considerable damage to the Gannavaram aqueduct on the Vynatheyam branch of the Godavari resulting in a collapse of a small portion of the aqueduct.

The north-east monsoon commenced in the first week of October 1944 and it was above the normal in all districts except Vizagapatam where it was below the normal.

List of Grow More Food Schemes sanctioned by Government during 1944-45.

(Referred to in paragraph 8, page 29.)

	COST.	ACRES
1. Providing irrigation facilities to a block of about 253 acres of land in Rajendram and Narasanayagapuram villages, Tanjore district and taluk.	30,300	253
2. Extension of irrigation under Pillai Voikal No. 3 in Vallamperambur, Nagathi and Melagaram villages, Tanjore district and taluk.	72,450	712
3. Providing Irrigation facilities for lands in Kambayanattam village, Tanjore district and taluk.	21,500	140
4. Excavating a straight cut from the existing flap out-let across the Adappampalem drain in the Cauvery for the drainage of Adappampalem lands in the Trichinopoly taluk.	8,080	365
5. Providing direct source of supply from the Cauvery to Pillai Voikal No. 2 in Tanjore taluk.	9,580	667
Improvements to Karungalar drain	16,000	100
6. Providing irrigation facilities to certain dry lands in Palivela, Avidi and Ganti villages, Razole taluk, East Godavari district.	31,800	426
7. Providing irrigation facilities to certain dry lands in Yeditha village, Ramachandrapuram taluk, East Godavari district.	25,231	382
8. Extension of Irrigation under Cauvery-Kondanar channel of Vellayar river in Prathaparamapuram villages, Negapatam taluk, etc., Tanjore district.	56,086	445
9. Restoration of the Mallapanakeri tank of Kurugodu village, Bellary taluk.	45,000	200
10. Providing irrigation facilities to certain high level lands below Ralli and Lolla locks in Komarajulanka, etc. villages, Razole taluk, East Godavari district.	2,94,420	1,660
11. Constructing an anicut across Ninjal maduvu and excavation of a supply channel to P. V. Kalathur tank, Chingleput district and taluk.	5,34,750	1,226
12. Improvements to Bapatla East swamp drain and to the aqueduct over it at 2/3 of Karlapalem channel, K.W. division, Guntur district.	57,500	500
13. Extension of irrigation under Nimmakayala Kothapalli channel G.C. division, East Godavari district.	48,500	643
Rupees ..	12,51,197	7,719

MADRAS,
17th March 1946.

A. R. VENKATA ACHARYA,
Chief Engineer for Irrigation.

APPENDIX I.

Statistical Statements (prescribed by the Secretary of State).

A-I.—Statement of Canals in the Madras Presidency for the year 1944–45.

—		Cauvery delta system. (1)	Srivaikuntam anicut system. (2)	Godavari delta system. (3)	Mehamattur anicut system. (4)	Tadepalli channel. (5)	Kalinga-royan channel. (6)	Vriddhachalam anicut system. (7)	Marudur anicut system. (8)
Source of supply of water		River Cauvery.	River Tambra-parni.	River Godavari.	River Manimukta-nadi.	River Bhavani.	River Bhavani.	River Manimukta-nadi.	River Tambra-parni.
Minimum discharge of river	C.ft. per second.	..	..	..	..	..	..	..	..
Maximum discharge of main canals, as designed	,,	43,750	1,860	14,510	263	725	893	351	1,595
Maximum discharge during the year	,,	22,577	2,429	13,730	141	684	689	239	1,288
Average rainfall for the river	Inches.	57·50	45·78	46·90	51·03	36·72	44·53	55·85	45·78
Gross area commanded	Acres.	1,706,023	80,000	1,295,000	13,792	20,693	23,696	19,993	35,840
Culturable area commanded	,,	909,034	33,500	1,122,500	10,651	19,332	12,805	16,359	17,920
Area irrigable by complete project	,,	908,374	26,000	840,000	5,200	19,332	11,843	15,559	17,920
Area irrigable at present	,,	895,340	26,000	840,000	5,000	15,183	11,386	8,829	17,920
Sanctioned estimate—									
Direct charges	Rs.		13,61,520	1,10,89,332		1,70,380	1,78,780		
Indirect charges	,,	83,26,762	1,15,286	19,34,864	87,184	11,050	4,506	1,08,204	60,122
Interest during construction	,,		7,49,577	1,11,38,052		..	..		
Total, Estimate ..	,,	83,26,762	22,26,383	2,41,62,248	87,184	1,81,430	1,83,286	1,08,204	60,122
Expenditure to end of 1944–45—									
Direct charges	Rs.	83,86,787	16,67,459	1,81,84,858	85,091	1,66,383	1,75,980	1,04,144	58,721
Indirect charges	,,	2,72,735	1,07,604	20,81,093	2,093	11,063	4,506	4,060	1,401
Interest during construction	,,	13,37,765	8,67,827	99,82,397	..	..	..	..	..
Total, Expenditure ..	,,	99,97,287	26,42,890	3,02,48,348	87,184	1,77,446	1,80,486	1,08,204	60,122
Works completed at the end of 1944–45—									
Main canals, irrigation	Miles.	943½	..	509⅝	7	48	57	17	..
Branch canals, irrigation	,,	..	28	..	8	37	5½	16	29
Distributaries	,,	2,798¼	46	1,887	9·26	..	..	16	7½
Of above—									
Navigable	,,	..	..	491⅞	..	..	..	..	..

A-I.—Statement of Canals in the Madras Presidency for the year 1944–45—*cont.*

		Pennar river canals system.	Arakankota channel.	Tirukkoyilur anicut system.	Shatiatope anicut system.	Cheyyar anicut system.	Poiney anicut system.	Kistna delta system.	Nandiyar channel system.
		(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Source of supply of water		River Pennar.	River Bhavani.	River Ponniar.	River Vellar.	River Cheyyar.	River Poiney.	River Kistna.	River Nandiyar.
Minimum discharge of river	C.ft. per second.	..	..	..	..	..	..	..	..
Maximum discharge of main canals, as designed	,,	7,760	552	1,271	850	1,542	3,217	14,286	237
Maximum discharge during the year	,,	7,194	339	825	1,140	675	..	14,906	188
Average rainfall for the year	Inches.	43·39	36·72	44·43	48·24	37·36	46·13	41·06	47·88
Gross area commanded	Acres.	258,600	6,000	54,895	108,069	29,461	42,560	1,350,400	9,480
Culturable area commanded	,,	190,000	5,000	45,977	43,965	29,461	23,824	1,000,000	9,480
Area irrigable by complete project	,,	170,000	5,000	28,000	34,000	23,629	23,824	968,000	7,295
Area irrigable at present	,,	167,500	4,821	28,000	34,000	22,687	22,462	876,527	7,280
Sanctioned estimate—									
Direct charges	Rs.	47,80,289	1,47,006	3,99,190	10,89,561	5,39,999	3,03,918	1,42,13,010	63,231
Indirect charges	,,	10,06,096	3,676					9,81,160	2,484
Interest during construction	,,	22,88,418	..					1,28,24,716	..
Total, Estimate	,,	80,74,803	1,50,682	3,99,190	10,89,561	5,39,999	3,03,918	2,80,18,886	65,715
Expenditure to end of 1944–45—									
Direct charges	Rs.	60,44,941	1,40,769	3,89,189	10,29,886	5,24,798	2,95,106	2,13,55,444	63,231
Indirect charges	,,	10,17,808	3,676	10,001	59,675	15,201	8,812	12,43,264	2,484
Interest during construction	,,	25,84,125	..	..	..	..	..	96,15,269	..
Total, Expenditure	,,	96,46,874	1,44,445	3,99,190	10,89,561	5,39,999	3,03,918	3,22,13,977	65,715
Works completed at the end of 1944–45—								M. CHS.	
Main canals, irrigation	Miles.	26½	20	57	3	21	55	388 7½	6½
Branch canals, irrigation	,,	..	4	80	38	40	49	..	..
Distributaries	,,	455½	..	28·23	149	120	78	2,115 23½	16½
Of above—									

A-I.—Statement of Canals in the Madras Presidency for the year 1944–45—*cont.*

—		Chicacole minor rivers system.	Lower Coleroon anicut system.	Kistna East Bank canal extension scheme (Divi pumping system).	Polavaram Island Project.	Kattalai scheme *Total of (*a*), (*b*) and (*c*).	Kurnool-Cuddapah canal.	Vallur anicut system.	Pelandurai anicut system.
		(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
Source of supply of water		Rivers, Langulya, Vamsadhara and Garibulagedda.	River Coleroon.	River Kistna.	Godavari Central Delta Bank canal.	River Cauvery.	River Tungabhadra.	River Kortalayar.	River Vellar.
Minimum discharge of river	C.ft. per second.	..	..	..	20	..	..	..	..
Maximum discharge of main canals as designed	,,	..	..	1,257	292	1,671	2,000	113	740
Maximum discharge during the year	,,	..	3,441	1,190	292	1,528	2,025	55	475
Average rainfall for the year	Inches.	29·24	59·31	43·16	43·49	31·69	26·76	75·92	52·72
Gross area commanded	Acres.	88,000	158,526	170,000	23,135	78,597	383,115	10,124	60,670
Culturable area commanded	,,	70,000	117,233	136,000	18,648	74,978 *	357,569	6,974	16,677
Area irrigable by complete project	,,	67,000	110,308	88,000	17,500	72,207 *	130,282	5,216	16,000
Area irrigable at present	,,	67,000	107,929	88,000	17,500	66,632 *	123,419	5,216	12,837
Sanctioned estimate—									
Direct charges	Rs.	2,78,196	30,01,669	58,18,267	17,97,194	45,13,712	2,33,87,114	76,282	6,92,074
Indirect charges	,,	11,030			24,463	18,21,296			
Interest during construction	,,	..			1,17,744	..			
Total, Estimate ..	,,	2,89,226	30,01,669	58,18,267	19,39,401	63,35,008	2,33,87,114	76,282	6,92,074
Expenditure to end of 1944-45—									
Direct charges	Rs.	2,78,196	29,13,423	57,41,382	16,75,572	40,40,058	2,33,27,221	74,366	6,43,302
Indirect charges	,,	11,030	88,246	1,07,009	27,516	98,217	73,552	1,916	48,772
Interest during construction	,,	..	..	..	1,17,744	18,21,296	..	..	..
Total, Expenditure ..	,,	2,89,226	30,01,669	58,48,391	18,20,832	59,59,571	2,34,00,773	76,282	6,92,074
Works completed to end of 1944-45—									
Main canals, irrigation	Miles.	87½	94	37	..	74¼	417⅝	..	15
Branch canals, irrigation	,,	191⅞	289	..	..	..	..	5⅝	24
Distributaries	,,	78⅜	620½	294	44⅝	106	294⅞	8	25
Of above—									
Navigable	,,	..	..	35½	..	..	75	..	..

* Kattalai system.

South bank canal.	High level channel.	Sriramasamudram canal.
42,000	25,597	11,000
41,000	23,378	10,600
40,000	21,807	10,400
35,164	21,318	10,150

APPENDIX I

A-I.—Statement of Canals in the Madras Presidency for the year 1944–45—*cont.*

—		Palar anicut system.	Muniyeru system.	Sagileru system.	Nagavalli river system.	Nagavaram anicut and supply channel.	Kaniyam-palayam anicut.	Veda-raniyam canal.	Buckingham canal.
		(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
Source of supply of water		River Palar.	River Muniyeru.	River Sagileru.	River Nagavalli.	River Gunjaneru.	River Bhavani.	..	..
Minimum discharge of river	C.ft. per second.	..	58	..	113	77·08	..	..	..
Maximum discharge of main canals as designed	,,	5,631	338	477	414	78	27·56	..	..
Maximum discharge during the year	,,	..	292	387	459	4,248	..	..	..
Average rainfall for the year	Inches.	44·50	26·76	27·60	40·36	348	46·97	..	..
Gross area commanded	Acres.	140,131	14,471	33,576	49,920	894	1,600	..	..
Culturable area commanded	,,	105,032	13,024	26,576	31,200	894	432	..	..
Area irrigable by complete project	,,	82,718	10,580	4,500	27,658	894	400	..	..
Area irrigable at present	,,	78,668	10,000	4,500	27,500	894	392	..	..
Sanctioned estimate—									
Direct charges	Rs.	24,89,275 (Direct, Indirect and Interest together)	6,09,601 (Direct, Indirect and Interest together)	4,47,108	17,47,770	1,07,295	1,36,343	1,32,699	95,81,344 (Direct, Indirect and Interest together)
Indirect charges	,,			17,619	68,530	2,595	3,757	3,733	
Interest during construction	,,			..	2,93,217	..	..	..	
Total, Estimate ..	,,	24,89,275	6,09,601	4,64,727	21,09,517	1,09,890	1,40,100	1,36,432	95,81,344
Expenditure to end of 1944–45—									
Direct charges	Rs.	23,71,791	5,79,336	4,47,108	17,51,140	1,07,295	1,07,221	1,32,699	9,042,908
Indirect charges	,,	1,17,484	30,265	17,619	44,602	2,595	3,853	3,733	4,93,437
Interest during construction	,,	..	..	..	2,93,217	..	..	..	..
Total, Expenditure ..	,,	24,89,275	6,09,601	4,64,727	20,88,959	1,09,890	1,11,074	1,36,432	95,36,345
Works completed to end of 1944–45—									
Main canals, irrigation	Miles.	157	26¾	12	64⅛	2	10⅓	45⅞	262
Branch canals, irrigation	,,	..	..	..	..	..	..	..	..
Distributaries	,,	227	28 7/16	..	47½	..	..	..	..
Of above—									
Navigable	,,	..	..	..	..	..	..	[illegible]	[illegible]

A-II.—Statement of Reservoir Projects in the Madras Presidency for the year 1944–45.

—		Chembarambakkam tank.	Cumbum tank.	Periyar system.	Toludur project (Willingdon reservoir).	Cauvery-Mettur system.	Barur tank.	Madras water-supply and irrigation system.
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Source of supply of water		Cooum river.	Gundlakamma and Jampaleru rivers.	Periyar and Vaigai rivers.	Vellar river and rainfall.	Cauvery river.	Ponniar and local rivers.	Kortalayar river.
If supplied by rainfall. Area of catchment	Sq. miles.	100	430	239	50	16,300	2,082 sqr. ms.	34
If supplied by rainfall. Average rainfall during the year ..	Inches.	56·54	34·55	72·14	71·61	..	33·06	52·69
Contents of tank between levels of surface of full supply and sill of canal head sluice.	Mill. c.ft.	3,146	2,942·17	9,815	2,591·58	93,500	248·63	2,729·864
Area of surface at full supply	Acres.	5,729	5,697	10·20 square miles.	3,946	59·25 square miles.	26·35	5,361
Gross area commanded	,,	32,554	7,860	768,000	38,400	497,200	6,887	16,129
Culturable area commanded	,,	24,478	6,000	Not known.	28,800	497,200	6,887	10,165
Area irrigable by complete project	,,	15,300	6,000	143,000	27,670	332,000	6,887	9,852
Area irrigable at present	,,	13,000	5,980	143,000	25,000	332,000	4,500	7,500
Sanctioned estimate—								
Direct charges	Rs.	6,48,970	83,985	1,08,35,654	29,60,000	7,23,11,000	4,00,000	18,68,918
Indirect charges	,,	1,12,547	2,388		2,50,000	13,97,000	25,300	
Interest during construction	,,	..	..		2,10,270	1,42,81,366	41,439	
Total, Estimate ..	,,	7,61,517	86,373	1,08,35,654	34,20,270	8,79,89,366	4,66,739	18,68,918
Expenditure to end of 1944–45—								
Direct charges	Rs.	6,51,348	83,985	1,04,64,627	23,71,023	6,36,63,452	4,28,228	16,28,864
Indirect charges	,,	1,12,795	2,388	3,71,027	2,51,758	1,03,94,311	23,809	2,40,054
Interest during construction	,,	..	..	16,06,402	..	2,41,45,532	80,175	..
Total, Expenditure ..	,,	7,64,143	86,373	1,24,42,056	26,22,781	9,82,03,295	5,32,212	18,68,918
Works completed to end of 1944–45—								
Dam (height completed)	Feet.	25	56	173 (masonry).	50	214 (masonry).	28 feet	30
Canals	Miles.	10⅞	..	36	31¾	113⅝	11	11⅛
Distributaries	,,	1⅞	23¾	118	40	594¼	26	..

A-II.—Statement of Reservoir Projects in the Madras Presidency for the year 1944–45—*cont.*

		Dondapad tank.	Yerur tank.	Atmakur tank.	Janga-maheswara-puram tank.	Anama-samudram Beeraperu tank.	Hajipuram tank.	Ponnalur tank.
		(8)	(9)	(10)	(11)	(12)	(13)	(14)
Source of supply of water		Rainfall.	Rainfall and surplus of upper tanks and spill from Challa-kalva branch of Swarna-muki.	Catchment of Chandra vanka and Kolagunda vagus.	Catchment of Dondi vagu.	Beeraperu river.	Damaleru diverted into the tank.	Gudiseleru diverted into the tank.
If supplied by rainfall. } Area of catchment	Sq. miles.	56	60·50	105	60	23·62	100·20	32·14
If supplied by rainfall. } Average rainfall during the year	Inches.	27·05	38·57	34·93	34.72	10·00	28·36	50·13
Contents of tank between levels of surface of full supply and sill of canal head sluice.	Mill. c.ft.	288·38	317·69	164	79	90·57	309	180·512
Area of surface at full supply	Acres.	705	3,285	575	619	474	1,600	719
Gross area commanded	”	3,240	3,176	1,700	960	1,000	2,900	1,973
Culturable area commanded	”	2,880	3,176	1,160	960	1,000	2,900	1,973
Area irrigable by complete project	”	250	3,176	460	290	1,000	700	1,000
Area irrigable at present	”	250	1,470	460	290	1,000	700	1,000
Sanctioned estimate—								
Direct charges	Rs.	1,24,786	61,741 }	1,25,403	{ 61,253	71,687	2,78,774 }	2,18,689
Indirect charges	”	15,218	1,612 }		{ 10,411	1,886	33,109 }	
Interest during construction	”	..	.. }		{ ..	..	.. }	
Total, Estimate ..	”	1,40,004	63,353	1,25,403	71,664	73,573	3,11,883	2,18,689
Expenditure to end of 1944–45—								
Direct charges	Rs.	1,24,786	61,741	1,11,959	61,253	71,687	2,78,774	1,92,975
Indirect charges	”	15,218	1,612	13,444	10,411	1,886	33,109	25,674
Interest during construction	”	..	..	..	..	..	..	..
Total, Expenditure ..	”	1,40,004	63,353	1,25,403	71,664	73,573	3,11,883	2,18,649
Works completed to end of 1944–45—								
Dam (height completed)	Feet.	23 (partly in earth and partly in masonry).	..	33	24	..	6	21½
Canals	Miles.	..	..	..	3½	..	..	..
Distributaries	..	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

A-II.—*Statement of Reservoir Projects in the Madras Presidency for the year 1944–45—cont.*

—		Markapur tank. (15)	Venkatapuram tank. (16)	Bhavanasi tank. (17)	Yellanur tank. (18)	Panjapatti reservoir. (19)	Siddapur tank. (20)	Mopad reservoir. (21)
Source of supply of water		Gundlakamma river.	Free basin and supply from Dhona vagu.	Rainfall.	Catchment basin and supply from Chitravati river.	Drainage basin.	Bhavanasi and other vagus.	Manneru river.
If supplied by rainfall. Area of catchment	Sq. miles.	270·25	51	43	20·51	108	45	250
If supplied by rainfall. Average rainfall during the year ..	Inches.	35·30	18.81	30·5	22·98	31·22	33·81	38·37
Contents of tank between levels of surface of full supply and sill of canal head sluice.	Mill. c.ft.	124·52	237	174·64	342·5	225	636	2,007
Area of surface at full supply	Acres.	811	448	650	2,617	609	1,125	3,100
Gross area commanded	,,	1,931	1,700	2,700	1,707	2,500	4,900	13,890
Culturable area commanded	,,	1,701	1,700	2,448	925	*	4,250	12,500
Area irrigable by complete project	,,	1,701	340	841	1,641	*	1,000	12,500
Area irrigable at present	,,	1,583	340	841	925	*	1,000	12,500
Sanctioned estimate—								
Direct charges	Rs.				2,35,711	3,36,090	9,21,980	21,97,000
Indirect charges	,,	1,16,657	3,31,776	2,65,491	30,009	68,510	26,620	1,00,000
Interest during construction	,,	4,001	14,824		..	..	..	..
Total, Estimate ..	,,	1,20,658	3,46,600	2,65,491	2,65,720	4,04,600	9,48,600	22,97,000
Expenditure to end of 1944–45—								
Direct charges	Rs.	1,24,481	3,72,250	2,54,395	2,39,192	3,27,781	7,91,038	23,09,227
Indirect charges	,,	4,859	12,671	11,096	30,515	11,495	13,448	97,494
Interest during construction	,,	..	..	29,806	..	..	..	..
Total, Expenditure ..	,,	1,29,340	3,84,921	2,95,297	2,69,707	3,39,276	8,04,486	24,06,721
Works completed to end of 1944–45—								
Dam (height completed)	Feet.	22	31	20	..	40	27½	71½
Canals	Miles.	7½	3¼	6⅜	..	..	6⅞	..
Distributaries	,,	..	..	..	..	½	9	84

* The reservoir breached in 1930 and it never had a wet ayacut.

B-I.—Capital Accounts of Irrigation, Navigation, Embankment and Drainage Works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year ending 1944–45.

Works or systems. (1)		Direct charges (net expenditure). Works. (2)	Establishment. (3)	Tools and plant. (4)	Suspense. (5)	*Deduct* Receipts on capital account. (6)	Total. (7)	Indirect charges. (8)	Total excluding interest. (9)	Simple interest. (10)
		RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
A. IRRIGATION WORKS.										
1. PRODUCTIVE WORKS.										
Cauvery delta system ..	To end of previous year.	66,71,442	14,92,086	1,35,649	— 1	14,793	82,84,383	2,71,949	85,56,332	1,13,54,304
	During the year ..	78,644	23,540	220	..	..	1,02,404	786	1,03,190	3,74,000
Srivaikuntam anicut system.	To end of previous year.	13,23,683	3,33,353	10,792	..	369	16,67,459	1,07,604	17,75,063	40,44,690
	During the year ..	..	..	..	..	..	..	..	..	75,036
Godavari delta system.	To end of previous year.	1,30,14,488	34,22,848	9,59,893	..	10,206	1,73,87,023	20,74,679	1,94,61,702	3,77,35,347
	During the year ..	6,41,361	1,36,247	20,227	..	..	7,97,835	6,414	8,04,249	7,98,377
Mehamattur anicut system.	To end of previous year.	67,745	17,320	26	..	..	85,091	2,093	87,184	2,05,478
	During the year ..	..	..	..	..	..	..	..	..	3,828
Thadepalli channel ..	To end of previous year.	1,36,531	29,836	16	..	..	1,66,383	11,063	1,77,446	4,00,474
	During the year ..	..	..	..	..	..	..	..	..	7,487
Kalingarayan channel.	To end of previous year.	1,43,789	32,191	..	..	..	1,75,980	4,506	1,80,486	3,34,153
	During the year ..	..	..	..	..	..	..	..	..	7,919
Vriddhachalam anicut.	To end of previous year.	82,956	21,125	63	..	..	1,04,144	4,060	1,08,204	1,99,395
	During the year ..	..	..	..	..	..	..	..	..	4,686
Chembrambakkam anicut.	To end of previous year.	5,14,255	1,28,958	8,249	..	114	6,51,348	1,12,795	7,64,143	17,27,047
	During the year ..	..	..	..	..	..	..	..	..	29,311
Marudur anicut system.	To end of previous year.	47,925	10,820	— 24	..	..	58,721	1,401	60,122	1,18,548
	During the year ..	..	..	..	..	..	..	..	..	2,642
Pennar river canals system.	To end of previous year.	48,65,047	10,35,810	1,45,073	..	2,858	60,43,072	10,17,790	70,60,862	1,30,43,110
	During the year ..	1,746	121	2	..	..	1,869	18	1,887	2,71,736
Arkenkota channel ..	To end of previous year.	1,14,505	26,264	..	..	..	1,40,769	3,676	1,44,445	3,46,635
	During the year ..	..	..	..	..	..	..	..	..	6,335
Tirukkoyilur anicut system.	To end of previous year.	3,18,375	70,709	105	..	..	3,89,189	10,001	3,99,190	8,54,839
	During the year ..	..	..	..	..	..	..	..	..	17,514
Shatiatope anicut system.	To end of previous year.	9,03,113	1,26,113	660	..	..	10,29,886	59,675	10,89,561	14,22,008
	During the year ..	..	..	..	..	..	..	..	..	46,345
Cheyyar anicut system.	To end of previous year.	4,20,163	1,03,941	744	..	50	5,24,798	15,201	5,39,999	11,33,950
	During the year ..	..	..	..	..	..	..	..	..	23,616
Cumbum tank system.	To end of previous year.	68,701	15,284	..	..	..	83,985	2,388	86,373	1,70,267
	During the year ..	..	..	..	..	..	..	..	..	3,779
Poiney anicut system ..	To end of previous year.	2,34,263	60,576	267	..	..	2,95,106	8,812	3,03,918	7,22,471
	During the year ..	..	..	..	..	..	..	..	..	13,280
Periyar system ..	To end of previous year.	80,28,303	16,90,738	7,66,897	..	21,311	1,04,64,627	3,71,027	1,08,35,654	1,87,35,065
	During the year ..	..	..	..	..	..	..	..	..	4,70,908
Kistna delta system ..	To end of previous year.	1,64,87,880	41,08,923	7,24,898	..	43,984	2,12,77,717	12,42,660	2,25,20,377	3,79,91,088
	During the year ..	60,302	17,200	225	..	..	77,727	604	78,331	9,56,974
Nandiyar channel system.	To end of previous year.	51,476	11,755	..	..	..	63,231	2,484	65,715	1,07,389
	During the year ..	..	..	..	..	..	..	..	..	2,845
Lower Coleroon anicut system.	To end of previous year.	24,57,252	4,42,566	16,780	..	3,175	29,13,423	88,246	30,01,669	45,50,374
	During the year ..	..	..	..	..	..	..	..	..	1,31,104
Kistna East Bank canal extension scheme.	To end of previous year.	42,90,813	8,28,750	6,88,927	..	1,07,119	57,01,371	1,07,009	58,08,380	43,69,254
	During the year ..	24,986	7,083	93	..	— 7,849	40,011	250	40,261	2,56,968
Polavaram island project.	To end of previous year.	12,91,912	3,69,626	14,349	..	4,099	16,71,788	27,486	16,99,274	12,99,289
	During the year ..	3,041	648	95	..	..	3,784	30	3,814	75,298

Cauvery-Mettur Project.	To end of previous year.	5,97,29,209	61,79,484	2,94,827	— 1	23,52,078	6,38,51,441	10,40,711	6,48,92,152	4,44,62,310
	During the year.. ..	— 1,39,897	— 37,057	— 2,339	..	8,696	— 1,87,989	— 1,400	— 1,89,389	28,68,453
Kattalai scheme ..	To end of previous year.	34,92,907	4,94,306	52,756	1	10,540	40,29,430	98,137	41,27,567	23,57,800
	During the year.. ..	8,038	2,567	23	..	..	10,628	80	10,708	1,81,450
Tungabhadra Project ..	To end of previous year.	..	..	..	..	..	..	..	..	..
	During the year.. ..	32,281	9,800	..	..	..	42,081	323	42,404	894
Total, A. Irrigation Works—1. Productive Works.	To end of previous year.	12,47,56,733	2,10,53,382	38,20,947	—1	25,70,696	14,70,60,365	66,85,453	15,37,45,818	18,76,85,285
	During the year.. ..	7,10,502	1,60,149	18,546	..	847	8,88,350	7,105	8,95,455	66,30,783
2. Unproductive Works.										
Kurnool-Cuddapah canal.	To end of previous year.	1,91,04,523	3,82,870	40,84,103	..	2,44,283	2,33,27,213	73,552	2,34,00,765	5,19,99,070
	During the year.. ..	— 1	9	..	..	..	8	..	8	10,49,690
Barur tank	To end of previous year.	3,42,783	78,506	6,961	..	22	4,28,228	23,809	4,52,037	8,93,181
	During the year.. ..	..	..	..	..	..	..	..	..	19,264
Vallur anicut system ..	To end of previous year.	60,662	13,679	25	..	..	74,366	1,916	76,282	1,94,067
	During the year.. ..	..	..	..	..	..	..	..	..	3,346
Madras water-supply and irrigation system.	To end of previous year.	13,92,995	2,30,243	6,928	..	1,302	16,28,864	2,40,054	18,68,918	43,97,398
	During the year.. ..	..	..	..	..	..	..	..	..	73,299
Pelandorai anicut system.	To end of previous year.	5,20,637	1,17,426	6,037	..	798	6,43,302	48,772	6,92,074	13,92,758
	During the year.. ..	..	..	..	..	..	..	..	..	28,949
Palar anicut system ..	To end of previous year.	18,68,029	4,74,387	30,047	..	672	23,71,791	1,17,484	24,89,275	61,06,694
	During the year. ..	..	..	..	..	..	..	..	..	1,06,674
Chicacole minor river system.	To end of previous year.	2,27,662	50,107	427	..	..	2,78,196	11,030	2,89,226	4,42,777
	During the year.. ..	..	..	..	..	..	..	..	..	12,519
Muniyeru system ..	To end of previous year.	4,70,736	1,06,584	3,748	..	1,732	5,79,336	30,265	6,09,601	9,77,527
	During the year.. ..	..	..	..	..	..	..	..	..	26,064
Dondapad tank ..	To end of previous year.	1,05,848	18,945	..	..	7	1,24,786	15,218	1,40,004	2,30,044
	During the year.. ..	..	..	..	..	..	..	..	..	5,615
Yerur tank	To end of previous year.	50,219	11,522	..	..	..	61,741	1,612	63,353	86,907
	During the year.. ..	..	..	..	..	..	..	..	..	2,778
Sagileru system ..	To end of previous year.	3,54,321	80,339	12,449	..	1	4,47,108	17,619	4,64,727	7,93,170
	During the year ..	..	..	..	..	..	..	..	..	20,120
Atmakur tank	To end of previous year.	92,765	19,191	3	..	..	1,11,959	13,444	1,25,403	1,57,172
	During the year. ..	..	..	..	..	..	..	..	..	5,038
Jangamaheswarapuram tank.	To end of previous year.	52,564	8,689	..	..	..	61,253	10,411	71,664	88,814
	During the year.. ..	..	..	..	..	..	..	..	..	2,756
Anamasamudram Beraperu tank.	To end of previous year.	58,421	13,266	..	..	..	71,687	1,886	73,573	95,259
	During the year.. ..	..	..	..	..	..	..	..	..	3,226
Hajipuram tank ..	To end of previous year.	2,30,686	48,308	..	..	220	2,78,774	33,109	3,11,883	3,84,472
	During the year.. ..	..	..	..	..	..	..	..	..	12,545
Ponnalur tank	To end of previous year.	1,61,263	31,658	54	..	..	1,92,975	25,674	2,18,649	2,71,801
	During the year.. ..	..	..	..	..	..	..	..	..	8,684
Markapur tank ..	To end of previous year.	1,01,374	23,066	41	..	..	1,24,481	4,859	1,29,340	1,57,344
	During the year.. ..	..	..	..	..	..	..	..	..	5,602
Nagavalli river system	To end of previous year.	13,65,711	2,88,579	93,551	..	5,308	17,42,533	44,533	17,87,066	21,51,290
	During the year.. ..	6,905	1,485	217	..	..	8,607	69	8,676	78,520
Venkatapuram tank ..	To end of previous year.	3,03,994	64,539	4,236	..	519	3,72,250	12,671	3,84,921	4,33,628
	During the year.. ..	..	..	..	..	..	..	..	..	16,751
Bhavanasi tank ..	To end of previous year.	1,85,879	43,103	25,710	..	297	2,54,395	11,096	2,65,491	2,89,256
	During the year.. ..	..	..	..	..	..	..	..	..	11,448
Yellanur tank	To end of previous year.	1,91,292	41,156	7,087	..	343	2,39,192	30,515	2,69,707	2,84,562
	During the year.. ..	..	..	..	..	..	..	..	..	10,764
Panjapatti reservoir project.	To end of previous year.	2,24,998	43,411	60,075	..	703	3,27,781	11,495	3,39,276	3,65,650
	During the year.. ..	..	..	..	..	..	..	..	..	14,750

B-I.—Capital Accounts of Irrigation, Navigation, Embankment and Drainage Works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year ending 1944–45—*cont.*

Works or systems. (1)		Direct charges (net expenditure). Works. (2)	Establishment. (3)	Tools and plant. (4)	Suspense. (5)	*Deduct* Receipts on capital account. (6)	Total. (7)	Indirect charges. (8)	Total excluding interest. (9)	Simple interest. (10)
		RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
A. IRRIGATION WORKS—*cont.*										
2. UNPRODUCTIVE WORKS—*cont.*										
Siddapur tank	To end of previous year.	5,22,751	96,255	1,72,474	..	442	7,91,038	13,448	8,04,486	8,77,726
	During the year.. ..	..	..	..	..	..	..	..	..	35,597
Nagavaram anicut and supply channel.	To end of previous year.	88,757	18,538	..	..	..	1,07,295	2,595	1,09,890	1,18,941
	During the year.. ..	..	..	..	..	..	..	..	..	4,828
Mopad reservoir system.	To end of previous year.	17,19,254	3,25,205	2,34,306	..	27,894	22,50,871	96,949	23,47,820	26,04,451
	During the year.. ..	54,527	3,765	64	..	..	58,356	545	58,901	1,02,387
Kaniampalayam anicut.	To end of previous year.	97,391	27,035	495	..	17,700	1,07,221	3,853	1,11,074	1,40,518
	During the year.. ..	..	..	..	..	..	..	..	..	4,825
Toludur reservoir project.	To end of previous year.	15,99,590	4,75,288	3,05,960	..	9,815	23,71,023	2,51,758	26,22,781	26,97,046
	During the year.. ..	..	..	..	..	..	..	..	..	1,06,652
Tippayapalem project.	To end of previous year.	4,41,041	1,30,844	967	..	656	5,72,196	12,020	5,84,216	2,55,764
	During the year.. ..	..	..	..	..	..	..	..	..	25,480
Basavannah channel ..	To end of previous year.	4,68,839	1,12,166	2,197	..	..	5,83,202	6,578	5,89,780	4,19,578
	During the year.. ..	..	..	..	..	..	..	..	..	26,230
Duvvaleru project ..	To end of previous year.	1,01,365	44,860	230	..	..	1,46,455	1,060	1,47,515	25,370
	During the year.. ..	..	..	..	..	..	..	..	..	6,604
Uduthorahalla Scheme.	To end of previous year.	6,342	1,075	3	..	..	7,420	64	7,484	158
	During the year.. ..	98,587	35,707	1,491	..	..	1,35,785	986	1,36,771	3,200
Mahadevapuram tank project.	To end of previous year.	6,520	2,645	39	..	..	9,204	65	9,269	195
	During the year.. ..	3,608	1,492	16		..	5,116	36	5,152	500
Total, A. Irrigation Works—2. Unproductive Works.	To end of previous year.	3,25,19,212	34,23,485	50,58,153	..	3,12,714	4,06,88,136	11,69,414	4,18,57,550	7,93,32,588
	During the year.. ..	1,63,626	42,458	1,788	..	..	2,07,872	1,636	2,09,508	18,34,705
Total, A. Irrigation Works.	To end of previous year.	15,72,75,945	2,44,76,867	88,79,100	— 1	28,83,410	18,77,48,501	78,54,867	19,56,03,368	26,70,17,873
	During the year. ..	8,74,128	2,02,607	20,334	..	847	10,96,222	8,741	11,04,963	84,65,488
B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS.										
2. UNPRODUCTIVE WORKS.										
Vedaranniyam canal ..	To end of previous year.	1,07,885	24,814	..	..	..	1,32,699	3,733	1,36,432	3,85,939
	During the year.. ..	..	..	..	..	..	..	..	..	5,971
Buckingham canal ..	To end of previous year.	71,68,310	16,63,549	1,81,572	..	24,365	89,89,075	4,92,934	94,82,009	2,03,65,823
	During the year.. ..	50,290	3,484	59	..	..	53,833	503	54,336	4,05,530
Total, B. Navigation, etc., Works—2. Unproductive Works.	To end of previous year.	72,76,204	16,88,363	1,81,572	..	24,365	91,21,774	4,96,667	96,18,441	2,07,51,762
	During the year.. ..	50,290	3,484	59	..	..	53,833	503	54,336	4,11,501
Total, B. Navigation, etc., Works.	To end of previous year.	72,76,204	16,88,363	1,81,572	..	24,365	91,21,774	4,96,667	96,18,441	2,07,51,762
	During the year.. ..	50,290	3,484	59	..	..	53,833	503	54,336	4,11,501
Total, Construction of Irrigation, etc., Works.	To end of previous year.	16,45,52,149	2,61,65,230	90,60,672	— 1	29,07,775	19,68,70,275	83,51,534	20,52,21,809	28,77,69,635
	During the year.. ..	9,24,418	2,06,091	20,393	..	847	11,50,055	9,244	11,59,299	88,76,989

APPENDIX I

C-I.—Statement showing the Financial Results of Irrigation, Navigation, Embankment and Drainage Works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year ending 1944–45.

Works or systems.	Revenue (actual receipts). Irrigation. Irrigation revenue.	Share of land revenue.	Total.	Navigation.	Plantation.	Miscellaneous.	Total.	Less refunds of revenue.	Gross revenue less refunds.	*Deduct* share of old irrigation revenue.	Total revenue due to improvements.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
A. IRRIGATION WORKS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
1. PRODUCTIVE WORKS.											
1 Cauvery delta system	52,85,933	1,62,127	54,48,060	4,450	15,260	19,969	39,679	304	54,87,435	38,37,825	16,49,610
2 Srivaikuntam anicut system	2,25,515	1,490	2,27,005	22	2,946	7,658	10,626	554	2,37,077	79,000	1,58,077
3 Godavari delta system	54,12,099	2,30,733	56,42,832	2,41,375	8,818	66,755	3,16,948	1,350	59,58,430	1,24,000	58,34,430
4 Mehamattur anicut system	27,221	196	27,417	..	174	1,032	1,206	..	28,623	4,000	24,623
5 Thadapalli channel system	1,56,743	2,929	1,59,672	..	1,925	1,868	3,793	65	1,63,400	76,000	87,400
6 Kalingarayan channel system	1,33,399	483	1,33,882	..	2,520	2,127	4,647	..	1,38,529	85,000	53,529
7 Vriddhachalam anicut system	46,091	339	46,430	..	789	29	818	112	47,136	8,500	38,636
8 Chembarambakkam tank system	64,803	957	65,760	..	..	—10	—10	..	65,750	16,000	49,750
9 Marudur anicut system	2,08,505	279	2,08,784	..	655	2,404	3,059	72	2,11,771	1,15,000	96,771
10 Pennar river canals system	9,04,898	73,367	9,78,265	524	494	4,187	5,205	9	9,83,461	2,56,000	7,27,461
11 Arkenkota channel system	41,108	428	41,536	..	616	341	957	..	42,493	19,000	23,493
12 Tirukkoyilur anicut system	1,39,729	3,369	1,43,098	..	1,350	771	2,121	15	1,45,204	60,000	85,204
13 Shatiatope anicut system	1,72,780	17,031	1,89,811	..	682	661	1,343	..	1,91,154	20,000	1,71,154
14 Cheyyar anicut system	1,14,188	4,735	1,18,923	..	141	665	806	..	1,19,729	39,000	80,729
15 Cumbum tank system	43,380	472	43,852	..	..	..	..	..	43,852	30,000	13,852
16 Poiney anicut system	1,25,828	5,488	1,31,316	..	145	229	374	..	1,31,690	38,100	93,590
17 Periyar system	10,28,377	94,863	11,23,240	579	23,916	5,957	30,452	439	11,53,253	2,04,000	9,49,253
18 Kistna delta system	52,89,729	1,92,210	54,81,939	1,78,711	9,963	72,409	2,61,083	3,106	57,39,916	71,000	56,68,916
19 Nandiyar channel system	33,285	250	33,535	21	836	319	1,176	2	34,709	17,000	17,709
20 Lower Coleroon anicut system	6,04,827	51,549	6,56,376	43	6,255	7,496	13,794	71	6,70,099	1,55,000	5,15,099
21 Kistna East Bank canal extension scheme.	6,08,304	87,205	6,95,509	2,365	..	9,951	12,316	619	7,07,206	20,300	6,86,906
22 Polavaram island project	1,07,026	..	1,07,026	61	557	785	1,403	4	1,08,425	..	1,08,425
23 Cauvery-Mettur Project	17,17,596	23,999	17,41,595	6	13,426	1,93,181	2,06,613	2,129	19,46,079	99,971	18,46,108
24 Kattalai scheme	4,18,572	121	4,18,693	49	6,328	3,820	10,197	58	4,28,832	2,54,000	1,74,832
Total, A. Irrigation Works—1. Productive Works.	2,29,09,936	9,54,620	2,38,64,556	4,28,206	97,796	4,02,604	9,28,606	8,909	2,47,84,253	56,28,696	1,91,55,557
2. UNPRODUCTIVE WORKS.											
1 Kurnool-Cuddapah canal	4,04,625	3,277	4,07,902	226	2,387	5,533	8,146	17	4,16,031	35,872	3,80,159
2 Barur tank	25,221	787	26,008	..	2,942	51	2,993	53	28,948	5,900	23,048
3 Vallur anicut	8,227	1,074	9,301	..	..	270	270	..	9,571	5,000	4,571
4 Madras Water-supply and Irrigation system.	25,073	462	25,535	..	..	41,577	41,577	..	67,112	11,000	56,112
5 Pelandurai anicut system	64,802	86	64,888		1,684	1,534	3,218		68,106	3,000	65,106
6 Palar anicut system	3,80,494	16,852	3,97,346	..	1,339	7,938	9,277	8	4,06,615	1,25,000	2,81,615
7 Chicacole minor river system	1,87,064	7,874	1,94,938	..	..	62	62	..	1,95,000	95,000	1,00,000
8 Muniyeru anicut system	43,676	62	43,738	3	633	1,153	1,789	..	45,527	2,500	43,027
9 Dondapad tank	2,717	10	2,727	..	..	..	..	..	2,727	..	2,727
10 Yerur tank	3,665	86	3,751	..	..		..	..	3,751	425	3,326

C-I.—Statement showing the Financial Results of Irrigation, Navigation, Embankment and Drainage Works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year ending 1944–45—*cont.*

Works or systems.	Revenue (actual receipts). Irrigation. Irrigation revenue.	Share of land revenue.	Total.	Navigation.	Plantation.	Miscellaneous.	Total.	Less refunds of revenue.	Gross revenue less refunds.	*Deduct* share of old irrigation revenue.	Total revenue due to improvements.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
A. IRRIGATION WORKS—*cont.*											
2. UNPRODUCTIVE WORKS—*cont.*											
11 Sagileru system	16,897	26	16,923	..	— 2	65	63	..	16,986	17,800	— 814
12 Atmakur tank	2,032	..	2,032	..	..	..	..	..	2,032	..	2,032
13 Jangamaheswarapuram tank	1,332	..	1,332	..	..	..	..	..	1,332	500	832
14 Anamasamudram-Beeraperu tank	4,130	1	4,131	..	..	..	..	..	4,131	3,600	531
15 Hajipuram tank	5,488	70	5,558	..	..	..	..	..	5,558	..	5,558
16 Ponnalur tank	7,307	..	7,307	..	..	..	..	..	7,307	..	7,307
17 Markapur tank	11,153	1	11,154	..	10	22	32	..	11,186	2,130	9,056
18 Nagavalli river system	1,24,790	21,804	1,46,594	..	15	523	538	..	1,47,132	37,400	1,09,732
19 Venkatapuram tank	3,541	..	3,541	..	..	..	..	..	3,541	..	3,541
20 Bavanasi tank	5,798	..	5,798	..	70	120	190	..	5,988	..	5,988
21 Yellanur tank	1,992	1,104	3,096	..	..	..	..	..	3,096	..	3,096
22 Panjapatti reservoir project	..	..	..	..	..	73	73	..	73	..	73
23 Siddapur tank	7,288	..	7,288	..	..	4	4	..	7,292	..	7,292
24 Nagavaram anicut and supply channel	4,580	1,017	5,597	..	..	8	8	..	5,605	2,256	3,349
25 Mopad reservoir system	45,993	5,170	51,163	..	..	199	199	..	51,362	433	50,929
26 Kanniyampalaiyam anicut	2,698	..	2,698	..	..	..	..	..	2,698	..	2,698
27 Toludur reservoir project	1,63,094	448	1,63,542	..	932	1,344	2,276	..	1,65,818	10,590	1,55,228
28 Thippayapalem project	6,512	..	6,512	..	..	..	..	..	6,512	..	6,512
29 Basavanna channel	..	..	..	..	..	245	245	..	245	..	245
30 Duvvaleru project	..	..	..	..	..	..	..	..	..	..	..
31 Uduthorachalla scheme	..	..	..	..	..	..	..	..	..	..	..
32 Mahadevapuram tank project	..	..	..	..	..	..	..	..	..	..	..
Total, A. Irrigation Works—2. Unproductive Works.	15,60,189	60,211	16,20,400	229	10,010	60,721	70,960	78	16,91,282	3,58,406	13,32,876
Total, A. Irrigation, etc., Works	2,44,70,125	10,14,831	2,54,84,956	4,28,435	1,07,806	4,63,325	9,99,566	8,987	2,64,75,535	59,87,102	2,04,88,433
B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS.											
2. UNPRODUCTIVE WORKS.											
1 Vedaranniyam canal	..	..	..	1,058	27	..	1,085	..	1,085	..	1,085
2 Buckingham canal	..	..	..	1,27,684	2,567	4,959	1,35,210	253	1,34,957	..	1,34,957
Total, B. Navigation, etc., Works—2. Unproductive Works.	..	..	..	1,28,742	2,594	4,959	1,36,295	253	1,36,042	..	1,36,042
Total, B. Navigation, etc., Works	..	..	..	1,28,742	2,594	4,959	1,36,295	253	1,36,042	..	1,36,042
Total construction of irrigation, etc., Works.	2,44,70,125	10,14,831	2,54,84,956	5,57,177	1,10,400	4,68,284	11,35,861	9,240	2,66,11,577	59,87,102	2,06,24 475

C-I.—**Statement showing the Financial Results of Irrigation, Navigation, Embankment and Drainage Works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year ending 1944–45—*cont.***

Works or systems.	Working expenses—Revenue management.				Working expenses. Maintenance and repairs.							
	Direction.	Execution.	Civil officers.	Total Revenue management.	Establishment.			Extensions and improvements.	Maintenance and repairs.	Tools and plant.	*Deduct* recoveries on revenue account.	Total cost of maintenance.
					Direction.	Execution.	Total.					
	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
A. IRRIGATION WORKS.			RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.		RS.
1. PRODUCTIVE WORKS.												
1 Cauvery delta system	..	..	2,70,812	2,70,812	61,637	2,46,549	3,08,186	86,004	6,17,947	1,964	..	10,14,101
2 Srivaikuntam anicut system	..	..	7,400	7,400	2,353	9,412	11,765	—407	35,978	93	..	47,429
3 Godavari delta system	..	..	2,74,024	2,74,024	77,954	3,11,814	3,89,768	1,59,524	10,70,153	38,780	..	16,58,225
4 Mehamattur anicut system	..	..	1,167	1,167	455	1,821	2,276	164	5,470	16	..	7,926
5 Thadapalli channel system	..	..	4,184	4,184	883	3,532	4,415	14	8,763	133	..	13,325
6 Kalingarayan channel system	..	..	2,444	2,444	825	3,[illegible]00	4,125	544	8,231	133	..	13,033
7 Vriddhachalam anicut system	..	..	1,896	1,896	685	2,742	3,427	..	8,047	23	..	11,497
8 Chembarambakkam tank system ..	..	..	2,488	2,488	1,003	4,013	5,016	..	63,260	74	..	68,350
9 Marudur anicut system	..	..	4,689	4,689	1,182	4,727	5,909	..	15,545	39	..	21,493
10 Pennar river canals system	..	..	34,945	34,945	4,701	18,804	23,505	3,636	1,52,901	183	..	1,80,225
11 Arkenkota channel system	..	..	1,127	1,127	258	1,031	1,289	..	2,462	37	..	3,788
12 Tirukkoyilur anicut system	..	..	4,155	4,155	4,658	18,630	23,288	..	69,852	195	..	93,335
13 Shatiatope anicut system	..	..	8,491	8,491	3,253	13,012	16,265	97	38,354	107	..	54,823
14 Cheyyar anicut system	..	..	3,924	3,924	6,343	25,371	31,714	440	79,776	1,212	..	1,13,142
15 Cumbum tank system	..	..	692	692	109	434	543	..	1,814	12	..	2,369
16 Poiney anicut system	..	..	4,658	4,658	3,538	14,154	17,692	459	44,393	678	..	63,222
17 Periyar system	..	..	42,236	42,236	13,536	54,143	67,679	3,409	2,08,624	548	..	2,80,260
18 Kistna delta system	..	..	2,66,858	2,66,858	74,727	2,98,910	3,73,637	75,585	8,21,636	3,353	..	12,74,211
19 Nandiyar channel system	..	..	818	818	431	1,724	2,155	..	5,726	16	..	7,897
20 Lower Coleroon anicut system	..	..	25,067	25,067	10,862	43,446	54,308	14,775	1,30,514	405	..	2,00,002
21 Kistna East Bank canal extension scheme.	..	..	30,267	30,267	5,444	21,777	27,221	1,245	56,745	216	..	85,427
22 Polavaram island project	..	..	5,351	5,351	2,364	9,458	11,822	..	39,678	1,251	..	52,751
23 Cauvery-Mettur Project	..	..	81,039	81,039	27,722	1,10,886	1,38,608	1,54,746	2,39,174	1,618	..	5,34,146
24 Kattalai scheme	..	..	8,230	8,230	4,126	16,503	20,629	1,906	50,583	147	..	73,[illegible]65
Total, A. Irrigation Works—1. Productive Works.	..	..	10,86,962	10,86,962	3,09,049	12,36,193	15,45,242	5,02,141	37,75,626	51,233	..	58,74,242
2. UNPRODUCTIVE WORKS.												
1 Kurnool-Cuddapah canal	..	..	18,572	18,572	6,944	27,776	34,720	1,377	75,618	510		1,12,225
2 Barur tank	..	..	975	975	434	1,735	2,169	..	4,724	72	..	6,965
3 Vallur anicut	..	..	215	215	49	194	243	..	1,521	2	..	1,766
4 Madras water-supply and irrigation system.	..	..	727	727	460	1,842	2,302	..	26,509	30	..	28,841
5 Pelandurai anicut system	..	..	3,094	3,094	1,197	4,789	5,986	..	14,929	41	..	20,956
6 Palar anicut system	..	..	13,567	13,567	17,931	71,725	89,656	60,881	4,72,155	2,925	..	6,25,617
7 Chicacole minor river system ..	..	..	4,993	4,993	2,656	10,626	13,282	8,500	40,442	1,544	..	63,768
8 Muniyeru anicut system	..	..	2,062	2,062	1,177	4,707	5,884	1,394	15,231	63	..	22,572
9 Dondapad tank	..	..	136	136	68	270	338	..	1,005	4	..	1,347
10 Yerur tank	..	..	166	166	39	158	197	..	300	1	..	498

C-I.—Statement showing the Financial Results of Irrigation, Navigation, Embankment and Drainage Works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year ending 1944-45—*cont.*

Works or systems.	Working expenses—Revenue management—*cont.*				Working expenses—*cont.* Maintenance and repairs—*cont.*							
	Direction.	Execution.	Civil officers.	Total Revenue management.	Establishment—*cont.* Direction.	Establishment—*cont.* Execution.	Establishment—*cont.* Total.	Extensions and improvements.	Maintenance and repairs.	Tools and plant.	*Deduct* recoveries on revenue account.	Total cost of maintenance.
	(13)	(14)	(15) RS.	(16) RS.	(17) RS.	(18) RS.	(19) RS.	(20) RS.	(21) RS.	(22) RS.	(23)	(24) RS.
A. IRRIGATION WORKS—*cont.*												
2. UNPRODUCTIVE WORKS—*cont.*												
11 Sagileru system	..	..	— 44	— 44	247	988	1,235	..	4,015	26	..	5,276
12 Atmakur tank	..	..	102	102	42	166	208	..	501	2	..	711
13 Jangamaheswarapuram tank	..	..	42	42	52	209	261	..	849	3	..	1,113
14 Anamasamudram Beeraperu tank	..	..	27	27	273	1,094	1,367	..	19,924	24	..	21,315
15 Hajipuram tank	..	..	277	277	31	125	156	..	..	..	..	156
16 Ponnalur tank	..	..	365	365	28	113	141	..	223	..	..	364
17 Markapur tank	..	..	451	451	164	655	819	268	2,129	16	..	3,232
18 Nagavalli river system	..	..	4,657	4,657	1,336	5,343	6,679	1,530	21,224	718	..	30,151
19 Venkatapuram tank	..	..	177	177	43	174	217	..	659	4	..	880
20 Bavanasi tank	..	..	290	290	222	889	1,111	944	2,658	13	..	4,726
21 Yellanur tank	..	..	130	130	95	381	476	..	1,402	9	..	1,887
22 Panjapatti reservoir project	..	..	..	..	3,333	13,333	16,666	66,132	..	170	..	82,968
23 Siddapur tank	..	..	364	364	65	258	323	..	857	5	..	1,185
24 Nagavaram anicut and supply channel	..	..	124	124	551	2,203	2,754	..	9,551	64	..	12,369
25 Mopad reservoir system	..	..	2, 311	2,311	238	949	1,187	..	6,046	7	..	7,240
26 Kanniyampalaiyam anicut	..	..	135	135	464	1,857	2,321	..	6,272	94	..	8,687
27 Toludur reservoir project	..	..	7,648	7,648	2,184	8,736	10,920	1,730	24,099	72	..	36,821
28 Thippayapalem project	..	..	326	326	203	810	1,013	81	3,090	21	..	4,205
29 Basavanna channel	..	..	..	..	345	1,379	1,724	8	6,011	41	..	7,784
30 Duvvaleru project	..	..	..	..	82	330	412	..	1,429	9	..	1,850
31 Uduthorahalla scheme	..	..	..	..	..	..	..	..	..	..	..	..
32 Mahadevapuram tank project	..	..	..	..	..	..	..	..	..	..	..	..
Total, A. Irrigation Works—2. Unproductive Works.	..	..	61,889	61,889	40,953	1,63,814	2,04,767	1,42,845	7,63,363	6,490	..	11,17,475
Total, A. Irrigation, etc., Works ..	..	..	11,48,851	11,48,851	3,50,002	14,00,007	17,50,009	6,44,986	45,38,999	57,723	..	69,91,717
B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS.												
2. UNPRODUCTIVE WORKS.												
1 Vedaranniyam canal	..	..	..	..	165	663	828	..	2,787	8	..	3,623
2 Buckingham canal	..	..	..	..	8,418	33,670	42,088	70,671	5,38,844	715	..	6,52,318
Total, B. Navigation, etc., Works—2. Unproductive Works.	..	..	..	..	8,583	34,333	42,916	70,671	5,41,631	723	..	6,55,941
Total, B. Navigation, etc., Works ..	..	..	..	..	8,583	34,333	42,916	70,671	5,41,631	723	..	6,55,941
Total, Construction of Irrigation, etc., Works.	..	..	11,48,851	11,48,851	3,58,585	14,34,340	17,92,925	7,15,657	50,80,630	58,446	..	76,47,658

C-I.—Statement showing the Financial Results of Irrigation, Navigation, Embankment and Drainage Works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year ending 1944–45—*cont.*

Works or systems.	Working expenses—*cont.*		*Deduct* old maintenance charges.			Total working expenses on improvements.	Net revenue	
	Indirect charges.	Grand total of working expenses.	Direct charges.	Indirect charges.	Total.		Total.	Due to improvements
	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
	RS.	RS.	RS	RS.	RS.	RS.	RS.	RS.
A. IRRIGATION WORKS—*cont.*								
1. PRODUCTIVE WORKS.								
1 Cauvery delta system	7,514	12,02,427	9,05,143	5,293	9,10,436	3,81,991	41,95,008	12,67,619
2 Srivaikuntam anicut system	356	55,185	6,983	56	7,039	48,146	1,81,892	1,09,931
3 Godavari delta system	12,297	19,44,546	..	..	..	19,44,546	40,13,884	38,89,884
4 Mehamattur anicut system ..	56	9,149	828	6	834	8,315	19,474	16,308
5 Thadapalli channel system	88	17,597	4,920	36	4,956	12,641	1,45,803	74,759
6 Kalingarayan channel system	88	15,565	5,501	40	5,541	10,024	1,22,964	43,505
7 Vriddhachalam anicut system	96	13,489	..	..	..	13,489	33,647	25,147
8 Chembrambakkam tank system	633	71,471	5,758	54	5,812	65,659	– 5,721	— 15,909
9 Marudur anicut system	155	26,337	5,903	47	5,950	20,387	1,85,434	76,384
10 Pennar river canals system	1,565	2,16,735	31,735	296	32,031	1,84,704	7,66,726	5,42,757
11 Arkenkota channel system	25	4,940	1,230	9	1,239	3,701	37,553	19,792
12 Tirukkoyilur anicut system	698	98,188	6,411	49	6,460	91,728	47,016	— 6,524
13 Shatiatope anicut system	385	63,699	2,138	17	2,155	61,544	1,27,455	1,09,610
14 Cheyyar anicut system	802	1,17,868	4,418	32	4,450	1,13,418	1,861	— 32,689
15 Cumbum tank system	18	3,079	1,025	8	1,033	2,046	40,773	11,806
16 Poiney anicut system	449	68,329	4,274	31	4,305	64,024	63,361	29,566
17 Periyar system	2,120	3,24,616	32,525	259	32,784	2,91,832	8,28,637	6,57,421
18 Kistna delta system	8,972	15,50,041	..	..	..	15,50,041	41,89,875	41,18,875
19 Nandiyar channel system	57	8,772	4,169	32	4,201	4,571	25,937	13,138
20 Lower Coleroon anicut system	1,453	2,26,522	9,465	73	9,538	2,16,984	4,43,577	2,98,115
21 Kistna East Bank canal extension scheme.	580	1,16,274	15,691	121	15,812	1,00,462	5,90,932	5,86,444
22 Polavaram island project	397	58,499	..	..	..	58,499	49,926	49,926
23 Cauvery-Mettur project	4,301	6,19,486	14,822	114	14,936	6,04,550	13,26,593	12,41,558
24 Kattalai scheme	1,696	83,191	63,059	485	63,544	19,647	3,45,641	1,55,185
Total, A. Irrigation Works—1. Productive Works.	44,801	70,06,005	11,25,998	7,058	11,33,056	58,72,949	1,77,78,248	1,32,82,608
2. UNPRODUCTIVE WORKS.								
1 Kurnool-Cuddapah canal	770	1,31,567	3,865	30	3,895	1,27,672	2,84,464	2,52,487
2 Barur tank	47	7,987	..	..	..	7,987	20,961	15,061
3 Vallur anicut	15	1,596	1,394	13	1,407	589	7,575	3,982
4 Madras water-supply and irrigation system.	265	29,833	4,066	38	4,104	25,729	37,279	30,383
5 Pelandorai anicut system	149	24,199	152	1	153	24,046	43,907	41,060
6 Palar anicut system	5,330	6,44,514	4,254	31	4,285	6,40,229	—2,37,899	– 3,58,614
7 Chicacole minor river system	490	69,251	5,796	47	5,843	63,408	1,25,749	36,592
8 Muniyeru anicut system	166	24,800	285	2	287	24,513	20,727	18,514
9 Dondapad tank	10	1,493	..	..	..	1,493	1,234	1,234
10 Yerur tank	3	667	..	..	..	667	3,084	2,659

C-I.—Statement showing the Financial Results of Irrigation, Navigation, Embankment and Drainage Works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year ending 1944–45—*cont.*

Works or systems.	Working expenses—*cont.*						Net revenue	
	Indirect charges.	Grand total of working expenses.	*Deduct* old maintenance charges.			Total working expenses on improvements.		
			Direct charges.	Indirect charges.	Total.		Total.	Due to improvements.
	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
A. IRRIGATION WORKS—*cont.*	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
2. UNPRODUCTIVE WORKS—*cont.*								
11 Sagileru system	40	5,272	2,825	22	2,847	2 425	11,714	− 3,234
12 Atmakur tank	5	818	..	..	..	818	1,214	1,214
13 Jangamaheswarapuram tank	9	1,164	..	..	..	1,164	168	− 332
14 Anamasamudram-Beeraperu tank ..	199	21,541	685	6	691	20,850	− 17,410	− 20,319
15 Hajipuram tank	..	433	..	..	..	433	5,125	5,125
16 Ponnalur tank	2	731	..	..	..	731	6,576	6,576
17 Markapur tank	24	3,707	314	2	316	3,391	7,479	5,665
18 Nagavalli river system	228	35,036	3,602	29	3,631	31,405	1,12,096	78,327
19 Venkatapuram tank	7	1,064	..	..	..	1,064	2,477	2,477
20 Bavanasi tank	36	5,452	..	..	..	5,052	936	936
21 Yellanur tank	14	2,031	..	..	..	2,031	1,065	1,065
22 Panjapatti reservoir project	661	83,629	..	..	..	83,629	− 83,556	− 83,556
23 Siddapur tank	9	1,558	..	..	..	1,558	5,734	5,734
24 Nagavaram anicut and supply channel ..	96	12,589	..	..	..	12,589	− 6,984	− 9,240
25 Mopad reservoir system	60	9,611	..	..	..	9,611	41,751	41,318
26 Kanniyampalaiyam anicut	63	8,885	..	..	..	8,885	− 6,187	− 6,187
27 Toludur reservoir project	258	44,727	..	..	..	44,727	1,21,091	1,10,501
28 Thippayapalem project	32	4,563	..	..	..	4,563	1,949	1,949
29 Basavanna channel	60	7,844	..	..	..	7,844	− 7,599	− 7,599
30 Duvvaleru project	14	1,864	..	..	..	1,864	− 1,864	− 1,864
31 Uduthorachalla Scheme	..	..	..	..	..	..	..	..
32 Mahadevapuram tank project	..	..	..	..	..	..	..	..
Total, A. Irrigation Works—2. Unproductive Works.	9,062	11,88,426	27,238	221	27,459	11,60,967	5,02,856	1,71,909
Total, A. Irrigation, etc., Works ..	53,863	81,94,431	11,53,236	7,279	11,60,515	70,33,916	1,82,81,104	1,34,54,517
B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS.								
2. UNPRODUCTIVE WORKS.								
1 Vedaranniyam canal	28	3,651				3,651	− 2,566	− 2,566
2 Buckingham canal	6,095	6,58,413	..	..	..	6,58,413	− 5,23,456	− 5,23,456
Total, B. Navigation, etc., Works—2. Unproductive Works.	6,123	6,62,064	..	..	..	6,62,064	− 5,26,022	− 5,26,022
Total, B. Navigation, etc., Works ..	6,123	6,62,064	..	..	..	6,62,064	− 5,26,922	− 5,26,022
Total, Construction of irrigation, etc., Works.	59,986	88,56,495	11,53,236	7,279	11,60,515	76,95,980	1,77,55,082	1,29,28,495

C-II.—Statement showing the Financial Results of Irrigation, Navigation, Embankment and Drainage Works for, and up to the end of, 1944–45.

Number of work.	Name of work.	General financial results to end of 1944-45. Mileage in operation. Main canals and branches.	Distribution.	Estimated cost of construction (direct and indirect).	Date of completion of work.	Date when system first came into operation.	Total capital outlay (direct and indirect).	Accumulated arrears of interest.	Accumulated surplus revenues.	Total sum-at-charge [column (7) plus column (8)].
(1)	(2)	(3)	(4)	(5)	(6-a)	(6-b)	(7)	(8)	(9)	(10)
	A. IRRIGATION WORKS.	MILES.	MILES.	RS.			RS.	RS.	RS.	RS.
	1. PRODUCTIVE WORKS.									
1	Cauvery delta system	943½	2,798¼	86,19,772	31-3-1889	..	86,59,522	..	5,23,85,144	86,59,522
2	Srivaikuntam anicut system	28	46	17,75,063	31-3-1889	..	17,75,063	..	1,67,250	17,75,063
3	Godavari delta system	509-5/8	1,887	2,25,02,852	31-3-1890	1877–78	2,02,65,951	..	15,84,90,882	2,02,65,951
4	Mehamattur anicut system	15	9½	87,184	March 1891	..	87,184	..	3,94,572	87,184
5	Thadapalli channel system	85	..	1,77,446	1893	..	1,77,446	..	20,57,904	1,77,446
6	Kalingarayan channel system	62½	..	1,80,486	1893	..	1,80,486	..	8,28,916	1,80,486
7	Vriddhachalam anicut system	33	16	1,08,204	31-3-1893	..	1,08,204	..	7,08,902	1,08,204
8	Chembarambakkam tank system	10-7/8	1-5/8	7,64,143	31-3-1893	..	7,64,143	..	4,07,742	7,64,143
9	Marudur anicut system	29	7¼	60,122	1893	..	60,122	..	43,22,234	60,122
10	Pennar river canal system	26½	455-1/3	70,81,444	31-3-1894	1860-61	70,62,749	..	1,21,58,585	70,62,749
11	Arkenkota channel system	24	..	1,44,445	31-3-1894	..	1,44,445	..	1,35,224	1,44,445
12	Tirukkoyilur anicut system	137	28¼	3,99,190	31-3-1895	..	3,99,190	..	8,48,334	3,99,190
13	Shatiatope anicut system	41	149	10,89,561	31-3-1895	..	10,89,561	..	48,80,857	10,89,561
14	Cheyyar anicut system	61	120	5,39,999	31-3-1896	..	5,39,999	32,040	..	5,72,039
15	Cumbum tank system	..	23¾	86,373	31-3-1896	..	86,373	..	26,804	86,373
16	Poiney anicut system	104	78	3,03,918	1897	..	3,03,918	..	13,96,685	3,03,918
17	Periyar anicut system	152	118	1,08,35,654	31-3-1897	1896–97	1,08,35,654	..	40,69,546	1,08,35,654
18	Kistna delta system	388	2,115	2,29,58,771	31-3-1898	..	2,25,98,708	..	12,57,23,757	2,25,98,708
19	Nandiyar channel system	6½	16¾	65,715	1899	1895-96	65,715	..	46,264	65,715
20	Lower Coleroon anicut system	383	620½	30,01,669	30-6-1903	..	30,01,669	..	1,42,40,998	30,01,669
21	Kistna East Bank canal extension scheme ..	37	294	58,57,175	31-10-1913	1917–18	58,48,641	..	14,68,974	58,48,641
22	Polavaram island system	..	44-5/8	17,12,876	28-2-1934	1929–30	17,03,088	1,43,110	..	18.46,198
23	Cauvery-Mettur system	113-5/8	594¼	6,79,18,979	30-9-1945	1932–33	6,47,02,763	3,67,05,611	..	10,14,08,374
24	Kattalai system	74½	106	45,24,732	..	1929–30	41,38,275	20,83,546	..	62,21,821
25	Thungabhadra project	..	..	5,67,29,558	..	..	42,404	894	..	43,298
	Total, A. Irrigation—1. Productive Works.	3,264-3/8	9,528-7/12	21,75,25,331	..	..	15,46,41,273	3,89,65,201	38,47,59,574	19,36,06,474

C-II.—Statement showing the Financial Results of Irrigation, Navigation, Embankment and Drainage Works for, and up to the end of, 1944–45—*cont.*

Number of work.	Name of work.	Financial results of the year 1944–45. Gross receipts (direct and indirect).	Working expenses (direct and indirect).	Net revenue.	Percentage on capital outlay [column (7)].	Percentage on sum-at-charge [column (10)].	Interest.	Net profit.	Net loss.	Area irrigated.	Percentage of working expenses to receipts [columns (11) to (12)].
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	A. IRRIGATION WORKS—*cont.*	RS.	RS.	RS.			RS.	RS.	RS.	ACS.	
	1. PRODUCTIVE WORKS—*cont.*										
1	Cauvery delta system	16,49,610	3,81,991	12,67,619	—14·64	14·64	3,74,000	8,93,619	..	2,82,021	23·76
2	Srivaikuntam anicut system	1,58,077	48,146	1,09,931	6·19	6·19	75,036	34,895	..	20,462	30·46
3	Godavari delta system	58,34,430	19,44,546	38,89,884	19·19	19·19	7,98,377	30,91,507	..	9,86,103	33·33
4	Mehamattur anicut system	24,623	8,315	16,308	18·71	18·71	3,828	12,480	..	4,736	33·77
5	Thadapalli channel system	87,400	12,641	74,759	42·13	42·13	7,487	67,272	..	9,799	14·46
6	Kalingarayan channel system	53,529	10,024	43,505	24·10	24·10	7,919	35,586	..	9,198	18·73
7	Vridhachalam anicut system	38,636	13,489	25,147	23·24	23·24	4,686	20,461	..	8,146	34·91
8	Chembarambakkam tank system	49,750	65,659	—15,909	—2·08	—2·08	29,311	..	45,220	8,040	131·98
9	Marudur anicut system	96,771	20,387	76,384	127·05	127·05	2,642	73,742	..	10,375	21·07
10	Pennar river canal system	7,27,461	1,84,704	5,42,757	7·68	7·68	2,71,736	2,71,021	..	1,02,446	25·39
11	Arkenkota channel system	23,493	3,701	19,792	13·70	13·70	6,335	13,457	..	2,617	15·75
12	Tirukkoyilur anicut system	85,204	91,728	—6,524	—1·63	—1·63	17,514	..	24,038	19,716	107·66
13	Shatiatope anicut system	1,71,154	61,544	1,09,610	10·06	10·06	46,345	63,265	..	37,956	35·95
14	Cheyyar anicut system	80,729	1,13,418	—32,689	—6·05	—6·05	23,616	..	56,305	19,660	140·49
15	Cumbum tank system	13,852	2,046	11,806	13·67	13·67	3,779	8,027	..	2,680	14·77
16	Poiney anicut system	93,590	64,024	29,566	9·73	9·73	13,280	16,286	..	15,737	68·41
17	Periyar anicut system..	9,49,253	2,91,832	6,57,421	6·07	6·07	4,70,908	1,86,513	..	1,16,195	30·74
18	Kistna delta system	56,68,916	15,50,041	41,18,875	18·23	18·23	9,56,974	31,61,901	..	9,79,345	27·34
19	Nandiyar channel system	17,709	4,571	13,138	19·99	19·99	2,845	10,293	..	4,073	25·81
20	Lower Coleroon anicut system	5,15,099	2,16,984	2,98,115	9·93	9·93	1,31,104	1,67,011	..	81,668	42·12
21	Kistna east bank canal extension scheme ..	6,86,906	1,00,462	5,86,444	10·03	10·03	2,56,968	3,29,476	..	90,931	14·77
22	Polavaram island system	1,08,425	58,499	49,926	2·93	2·70	75,296	..	25,370	21,668	53·95
23	Cauvery-Mettur system	18,46,108	6,04,550	12,41,558	1·92	1·22	28,68,453	..	16,26,895	1,74,489	32·75
24	Kattalai system	1,74,832	19,647	1,55,185	3·75	2·49	1,81,450	..	26,265	35,138	11·24
25	Tungabhadra project	..	..		..	..	894	..	894	..	..
	Total, A. Irrigation—1. Productive Works.	1,91,55,557	58,72,949	1,32,82,608	8·59	6·86	66,30,783	66,51,825	..	30,43,200	30·66

C-II.—Statement showing the Financial Results of Irrigation, Navigation, Embankment and Drainage Works for, and up to the end of, 1944–45—cont.

General financial results to end of 1944–45.

Number of works. (1)	Name of work. (2)	Mileage in operation. Main canals and branches. (3) MILES.	Mileage in operation. Distributaries. (4) MILES.	Estimated cost of construction (direct and indirect). (5) RS.	Date of completion of work. (6-a)	Date when system first came into operation. (6-b)	Total capital outlay (direct and indirect). (7) RS.	Accumulated arrears of interest. (8) RS.	Accumulated surplus revenues. (9) RS.	Total sum-at-charge [column (7) plus column (8)]. (10) RS.
	A. IRRIGATION WORKS—*cont.* 2. UNPRODUCTIVE WORKS.									
1	Kurnool-Cuddapah canal	417-5/8	294-7/8	2,33,99,534	Not known.	1882–83	2,34,00,773	46,883,690	..	7,02,84,463
2	Barur tank	11	26	4,52,037	31-3-1891	1887–88	4,52,037	4,79,153	..	9,31,190
3	Vallur anicut	5-5/8	8	76,282	31-3-1893	..	76,282	60,219	..	1,36,501
4	Madras Water-supply and Irrigation system.	11¼	..	18,68,918	1893	..	18,68,918	30,63,022	..	49,31,940
5	Pelandorai anicut system	39	25	6,92,074	1893	..	6,92,074	4,82,581	..	11,74,655
6	Palar anicut system	157	227	24,89,275	31-3-1896	..	24,89,275	14,02,174	..	38,91,449
7	Chicacole minor rivers system	279-3/8	78-3/8	2,89,226	31-3-1900	..	2,89,226	..	7,90,236	2,89,226
8	Muniyeru system	261	28-7/16	6,09,601	1901–02	1898–99	6,09,601	2,84,501	..	8,94,102
9	Dondapad tank	..	6-7/8	1,40,004	31-3-1903	1898–99	1,40,004	2,15,403	..	3,55,407
10	Yerur tank	..	..	63,353	31-3-1907	1912–13	63,353	60,602	..	1,23,955
11	Sagileru system	12	..	4,64,727	31-3-1907	1898–99	4,64,727	8,53,051	..	13,17,778
12	Atmakur tank	..	4½	1,25,403	31-3-1907	1912–13	1,25,403	1,24,093	..	2,49,496
13	Jangamaheswarapuram tank	3½	5⅛	71,664	31-3-1908	1912–13	71,664	80,836	..	1,52,500
14	Anamasamudram-Beraperu tank	..	2-7/8	73,573	31-3-1910	1911–12	73,573	1,24,459	..	1,98,032
15	Hajipuram tank	..	4½	3,11,883	31-3-1911	1910–11	3,11,883	3,12,149	..	6,24,032
16	Ponnalur tank	..	..	2,18,649	31-3-1911	1910–11	2,18,649	2,75,636	..	4,94,285
17	Markapur tank	7½	..	1,29,340	31-3-1911	1909–10	1,29,340	1,35,646	..	2,64,986
18	Naganalli river system	64-½	47½	18,02,487	31-12-1913	1909–10	17,95,742	4,91,741	..	22,87,483
19	Venkatapuram tank	3¼	..	3,84,921	31-3-1918	1921–22	3,84,921	4,47,276	..	8,32,197
20	Bhavanasi tank	6-3/8	..	2,65,491	31-3-1919	1921–22	2,65,491	2,75,000	..	5,40,491
21	Yellanur tank	..	3-7/8	2,69,707	31-3-1919	1920–21	2,69,707	2,54,098	..	5,23,805
22	Panjapatti reservoir system	..	1½	3,39,276	31-6-1919	1924–25	3,39,276	5,94,389	..	9,33,665
23	Siddapur tank	6-7/8	9	8,04,486	31-10-1919	1921–22	8,04,486	8,73,608	..	16,78,094
24	Naganaram anicut and supply channel	2	..	1,09,890	31-12-1919	1920–21	1,09,890	1,03,574	..	2,13,464
25	Mopad reservoir system	..	84	24,20,630	30-4-1921	1921–22	24,06,721	21,98,287	..	46,05,008
26	Kanniyampalayam anicut	10½	..	1,11,074	31-3-1922	1924–25	1,11,074	1,57,735	..	2,68,809
27	Toludur reservoir system	31¾	40	26,22,781	31-10-1925	1924–25	26,22,781	15,36,702	..	41,59,483
28	Tippayapalem project	..	..	5,93,900	In progress.	In progress.	5,84,216	2,54,278	..	8,38,494
29	Basavanna channel	..	..	5,92,100	Do.	Do.	5,89,780	5,59,027	..	11,48,807
30	Luvvaleru project	..	..	1,52,075	Do.	Do.	1,47,515	36,560	..	1,84,075
31	Uduthorahalla scheme	..	..	2,11,088	Do.	Do.	1,44,255	3,358	..	1,47,613
32	Mahadevapuram tank project	..	..	1,12,489	Do.	Do.	14,421	695	..	15,116
	Total, A. Irrigation—2. Unproductive Works	1,329-7/8	896-15/16	4,22,67,938	..	..	4,20,67,058	6,26,23,543	7,90,236	10,46,90,601
	Total, A. Irrigation Works	4,594½	10,425-25/48	25,97,93,269	..	..	19,67,08,331	10,15,88,744	38,55,49,810	29,82,97,075
	B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS. 2. UNPRODUCTIVE WORKS.									
1	Vedaranyam canal	31¾	..	1,36,432	31-3-1893	..	1,36,432	8,11,196	..	9,47,628
2	Buckingham canal	262	..	96,44,500	March 1897	..	95,36,345	2,71,71,457	..	3,67,07,802
	Total, B. Navigation, etc., Works—2. Unproductive Works.	293¾	..	97,80,932	..	..	96,72,777	2,79,82,653	..	3,76,55,430
	Total, B. Navigation, etc., Works.	293¾	..	97,80,932	..	..	96,72,777	2,79,82,653	..	3,76,55.430
	Total, Construction of Irrigation, etc., Works.	4,888	10,425-25/48	26,95,74,201	..	..	20,63,81,108	12,95,71,397	38,55,49,810	33,59,52,505

C-II.—Statement showing the Financial Results of Irrigation, Navigation, Embankment and Drainage Works for, and up to the end of, 1944–45—*cont.*

Number of work.	Name of work.	Financial results of the year 1944–45. Gross receipts (direct and indirect).	Working expenses (direct and indirect).	Net revenue.	Percentage on capital outlay [column (7)].	Percentage on sum-at-charge [column (10)].	Interest.	Net profit.	Net loss.	Area irrigated.	Percentage of working expenses to receipts [columns (11) to (12)]
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		RS.	RS.	RS.			RS.	RS.	RS.	ACS.	
	A. IRRIGATION WORKS—*cont.*										
	2. UNPRODUCTIVE WORKS—*cont.*				..	..					
1	Kurnool-Cuddapah canal	3,80,159	1,27,672	2,52,487	1·08	0·36	10,49,690	..	7,97,203	84,886	33·58
2	Barur tank	23,048	7,987	15,061	3·33	1·62	19,264	..	4,203	3,552	34·65
3	Vallur anicut	4,571	589	3,982	5·22	2·92	3,346	636	..	1,501	12·89
4	Madras water-supply and irrigation system.	56,112	25,729	30,383	1·63	0·62	73,299	..	42,916	4,260	45·85
5	Pelandorai anicut system	65,106	24,046	41,060	5·93	3·50	28,949	12,111	..	13,370	36·93
6	Palar anicut system	2,81,615	6,40,229	−3,58,614	−14·41	9·22	1,06,674	..	4,65,288	52,157	227·34
7	Chicacole Minor rivers system	1,00,000	63,408	36,592	12·65	12 65	12,519	24,073	..	39,013	63·41
8	Muniyeru system	43,027	24,513	18,514	3·04	2·07	26,064	..	7,550	8,516	56·97
9	Dondapad tank	2,727	1,493	1,234	0·88	0·35	5,615	..	4,381	717	54·75
10	Yerur tank	3,326	667	2,659	4·20	2·15	2,778	..	119	1,291	20·06
11	Sagileru system	—814	2,425	−3,239	−0·70	0·25	20,120	..	23,359	577	−297·91
12	Atmakur tank	2,032	818	1,214	0·97	0·49	5,038	..	3,824	491	40·25
13	Jangamaheswarapuram tank	832	1,164	−332	−0·46	0·22	2,756	..	3,088	157	139·90
14	Anamasamudram-Beraperu tank	531	20,850	−20,319	27·62	10·26	3,226	..	23,545	35	3,926·55
15	Hajipuram tank	5,558	433	5,125	1·64	0·82	12,545	..	7,420	1,742	7·79
16	Ponnalur tank	7,307	731	6,576	3·01	1·33	8,684	..	2,108	1,391	10·00
17	Markapur tank	9,056	3,391	5,665	4·38	2·14	5,602	63	..	2,068	37·44
18	Naganalli river system	1,09,732	31,405	78,327	4·36	3·42	78,520	..	193	13,835	28·62
19	Venkatapuram tank	3,541	1,064	2,477	0·64	0·30	16,751	..	14,274	504	30·05
20	Bhavanasi tank	5,988	5,052	936	0·35	0·17	11,448	..	10,512	606	84·37
21	Yellanur tank	3,096	2,031	1,065	0·39	0·20	10,764	..	9,699	554	65·60
22	Panjapatti reservoir system	73	83,629	−83,556	−24·63	8·95	14,750	..	98,306	..	1,14,560.27
23	Siddapur tank	7,292	1,558	5,734	0·71	0·34	35,597	..	29,863	1,015	21·36
24	Naganaram anicut and supply channel	3,349	12,589	−9,240	8·41	4·33	4,828	..	14,068	439	375·90
25	Mopad reservoir system	50,929	9,611	41,318	1·72	0·90	1,02,387	..	61,069	6,540	18·87
26	Kanniyampalayam anicut	2,698	8,885	−6,187	−5·57	2·30	4,825	..	11,012	442	329·31
27	Tholudur reservoir system	1,55,228	44,727	1,10,501	4·21	2·66	1,06,652	3,849	..	23,634	28·81
28	Tippayapalem project	6,512	4,563	1,949	0·33	0·23	25,480	..	23,531	1,086	70·07
29	Basavanna channel	245	7,844	−7,599	1·29	0·66	26,230	..	33,829	..	3,201·63
30	Duvvaleru project	..	1,864	−1,864	1·26	1·01	6,604	..	8,468	..	..
31	Uduthorahalla scheme	..	..	..	..	..	3,200	..	3,200	..	..
32	Mahadevapuram tank project	..	..	..	..	..	500	..	500	..	..
	Total, A. Irrigation—2. Unproductive Works	13,32,876	11,60,967	1,71,909	0·41	0·16	18,34,705	..	16,62,796	263,226	87·10
	Total, A. Irrigation Works	2,04,88,433	70,33,916	1,34,54,517	6·84	4·51	84,65,488	49,89,029	..	3,306,426	34·33
	B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS.										
	2. UNPRODUCTIVE WORKS.										
1	Vedaranyam canal	1,085	3,651	−2,566	−1·88	0·27	5,971	..	8,537	..	336·49
2	Buckingham canal	1,34,957	6,58,413	−5,23,456	−5·49	1·43	4,05,530	..	9,28,986	..	487·87
	Total, B. Navigation, etc. Works—2. Unproductive Works	1,36,042	66,2,064	−5,26,022	−5·44	1·40	4,11,501	..	9,37,523	..	486·66
	Total, B. Navigation, etc. Works	1,36,042	6,62,064	−5,26,022	−5.44	1.40	4,11,501	..	9,37,523		486.66
	Total, Construction of Irrigation, etc., Works	2,06,24,475	78,95,980	1,29,28,495	6·26	3·55	88,76,989	40,51,506		..	37·31

C-III.—Demands and Realizations during the year 1944–45 in the Madras Presidency—Irrigation, Navigation, Embankment and Drainage Works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept.

Serial number and works or systems.	Balance of demands unrealised at the commencement of the year.	Demand for the year.	Total.	Deduct remissions including cash refunds.	Net total.	Deduct amount unrealised at the close of the year.	Actual total receipts of the year.	Deduct share due to old irrigation.	Net amount due to improvements.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		RS.	RS.	RS.	RS.		RS.	RS.	RS.
A. IRRIGATION WORKS.									
1. PRODUCTIVE WORKS.									
1 Cauvery delta system	..	54,64,190	54,64,190	23,245	54,87,435	..	54,87,435	38,37,825	16,49,610
2 Srivaikuntam anicut system	..	2,34,749	2,34,749	2,328	2,37,077	..	2,37,077	79,000	1,58,077
3 Godavari delta system	..	58,13,911	58,13,911	1,44,519	59,58,430	..	59,58,430	1,24,000	58,34,430
4 Mehamattur anicut system	..	28,606	28,606	17	28,623	..	28,623	4,000	24,623
5 Thadapalli channel system	..	1,63,315	1,63,315	85	1,63,400	..	1,63,400	76,000	87,400
6 Kalingarayan channel system	..	1,38,210	1,38,210	319	1,38,529	..	1,38,529	85,000	53,529
7 Vriddhachalam anicut system	..	46,998	46,998	138	47,136	..	47,136	8,500	38,636
8 Chembrambakkam tank system	..	65,679	65,679	71	65,750	..	65,750	16,000	49,750
9 Marudur anicut system	..	2,11.224	2,11,224	547	2,11,771	..	2,11,771	1,15,000	96,771
10 Pennar river canals system	..	9,77,385	9,77,385	6,076	9,83,461	..	9,83,461	2,56,000	7,27,461
11 Arkenkota channel system	..	42,482	42,482	11	42,493	..	42,493	19,000	23,493
12 Tirukkoyilur anicut system	..	1,44,019	1,44,019	1,185	1,45,204	..	1,45,204	60,000	85,204
13 Shatiatope anicut system	..	1,90,343	1,90,343	811	1,91,154	..	1,91,154	20,000	1,71,154
14 Cheyyar anicut system	..	1,19,368	1,19,368	361	1,19,729	..	1,19,729	39,000	80,729
15 Cumbum tank system	..	43,842	43,842	10	43,852	..	43,852	30,000	13,852
16 Poiney anicut system	..	1,30,883	1,30,883	807	1,31,690	..	1,31,690	38,100	93,590
17 Periyar project system	..	11,51,013	11,51,013	2,240	11,53,253	..	11,53,253	2,04,000	9,49,253
18 Kistna delta system	..	55,98.760	55,98,760	1,41,156	57,39,916	..	57,39,916	71,000	56,68,916
19 Nandiyar channel system	..	34,149	34,149	560	34,709	..	34,709	17,000	17,709
20 Lower Coleroon anicut system	..	6,69,715	6,69,715	384	6,70,099	..	6,70,099	1,55,000	5,15,099
21 Kistna East Bank canal extension scheme	..	6,90,759	6,90,759	16,447	7,07,206	..	7,07,206	20,300	6,86,906
22 Polavaram Island project	..	1,08,421	1,08,421	4	1,08,425	..	1,08,425	..	1,08,425
23 Cauvery-Mettur project	..	19,39,021	19,39,021	7,058	19,46,079	..	19,46,079	99,971	18,46,108
24 Kattalai scheme	..	4,27,339	4,27,339	1,493	4,28,832	..	4,28,832	2,54,000	1,74,832
Total, A. Irrigation Works—1. Productive Works	..	**2,44,34,381**	**2,44,34,381**	**3,49,872**	**2,47,84,253**	..	**2,47,84,253**	**56,28,696**	**1,91,55,557**
2. UNPRODUCTIVE WORKS.									
1 Kurnool-Cuddapah canal	..	4,15,809	4,15,809	222	4,16,031	..	4,16,031	35,872	3,80,159
2 Barur tank	..	28,831	28.831	117	28,948	..	28,948	5,900	23,048
3 Vallur anicut system	..	8,484	8,484	1,087	9,571	..	9,571	5,000	4,571
4 Madras water-supply and irrigation system	..	66,847	66,847	265	67,112	..	67,112	11,000	56,112
5 Pelandorai anicut system	..	68,086	68,086	20	68,106	..	68,106	3,000	65,106
6 Palar anicut system	..	4,01,032	4,01,032	5,583	4,06,615	..	4,06,615	1,25,000	2,81,615
7 Chicacole minor rivers system	..	1,92,753	1,92,753	2,247	1,95,000	..	1,95,000	95,000	1,00,000
8 Muniyeru anicut system	..	38,499	38,499	7,028	45,527	..	45,527	2,500	43,027
9 Dondapad tank	..	2,727	2,727	..	2,727	..	2,727	..	2,727
10 Yerur tank	..	3,751	3,751	..	3,751	..	3,751	425	3,326
11 Sagileru system	..	16,983	16,983	3	16,986	..	16,986	17,800	— 814

C-III.—Demands and Realizations during the year 1944–45 in the Madras Presidency—Irrigation, Navigation, Embankment and Drainage Works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept—*cont.*

Serial number and works or systems.	Balance of demands unrealised at the commencement of the year.	Demand for the year.	Total.	Deduct remissions including cash refunds.	Net total.	Deduct amount unrealised at the close of the year.	Actual total receipts of the year.	Deduct share due to old irrigation.	Net amount due to improvements.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		RS.	RS.	RS.	RS.		RS.	RS.	RS.
A. IRRIGATION WORKS—*cont.*									
2. UNPRODUCTIVE WORKS—*cont.*									
12 Atmakur tank	..	2,032	2,032	..	2,032	..	2,032	..	2,032
13 Jangamaheswarapuram tank	..	1,332	1,332	..	1,332	..	1,332	500	832
14 Anamasamudram-Beraperu tank	..	4,131	4,131	..	4,131	..	4,131	3,600	531
15 Hajipuram tank	..	5,558	5,558	..	5,558	..	5,558	..	5,558
16 Ponnalur tank	..	7,307	7,307	..	7,307	..	7,307	..	7,307
17 Markapur tank	..	11,186	11,186	..	11,186	..	11,186	2,130	9,056
18 Nagavalli river system	..	1,45,665	1,45,665	1,467	1,47,132	..	1,47,132	37,400	1,09,732
19 Venkatapuram tank	..	3,541	3,541	..	3,541	..	3,541	..	3,541
20 Bhavanasi tank	..	5,988	5,988	..	5,988	..	5,988	..	5,988
21 Yellanur tank	..	2,662	2,622	474	3,096	..	3,096	..	3,096
22 Panjapatti reservoir project	..	73	73	..	73	..	73	..	73
23 Siddapur tank	..	7,292	7,292	..	7,292	..	7,292	..	7,292
24 Nagavaram anicut and supply channel	..	5,603	5,603	2	5,605	..	5,605	2,256	3,349
25 Mopad reservoir system	..	51,362	51,362	..	51,362	..	51,362	433	50,929
26 Kanniyampalaiyam anicut	..	2,698	2,698	..	2,698	..	2,698	..	2,698
27 Tholudur reservoir system	..	1,65,818	1,65,818	..	1,65,818	..	1,65,818	10,590	1,55,228
28 Tippayapalem project	..	6,512	6,512	..	6,512	..	6,512	..	6,512
29 Basavanna channel	..	245	245	..	245	..	245	..	245
30 Duvvaleru project..	..	..	..	..	..	..	..	..	..
Total, A. Irrigation Works—2. Unproductive Works.	..	16,72,767	16,72,767	18,515	16,91,282	..	16,91,282	3,58,406	13,32,876
Total, A. Irrigation Works ..	..	2,61,07,148	2,61,07,148	3,68,387	2,64,75,535	..	2,64,75,535	59,87,102	2,04,88,433
B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS.									
2. UNPRODUCTIVE WORKS.									
1 Vedaranniyam canal	..	1,085	1,085	..	1,085	..	1,085	..	1,085
2 Buckingham canal	..	1,34,704	1,34,704	253	1,34,957	..	1,34,957	..	1,34,957
Total, B. Navigation, etc., Works—2. Unproductive Works.	..	1,35,789	1,35.789	253	1,36,042	..	1,36,042	..	1,36,042
Total, B. Navigation, etc., Works ..	..	1,35,789	1,35,789	253	1,36,042	..	1,36,042	..	1,36,042
Total, Construction of Irrigation, etc., Works ..	..	2,62,42,937	2,62,42,937	3,68,640	2,66,11,577	..	2,66,11,577	59,87,102	2,06,24,475

C-IV.—Statement showing the Financial Results of Irrigation, Navigation, Embankment and Drainage Works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year 1944–45 based on the assessment for the year.

Works or systems.	Capital outlay (direct and indirect) to end of the year.	Revenue assessed during the year. Direct revenue. Owner's rate.	Plantations.	Navigation.	Miscellaneous.	Total.	Indirect revenue and land revenue due to operations of canal.	Less refunds of revenue.	Grand total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
A. IRRIGATION WORKS.	RS.		RS.	RS.	RS.	RS.	RS.	RS.	RS.
1. PRODUCTIVE WORKS.									
1 Cauvery delta system	86,59,522	..	15,260	4,450	19,969	39,679	54,48,060	304	54,87,435
2 Srivaikuntam anicut system	17,75,063	..	2,946	22	7,658	10,626	2,27,005	554	2,37,077
3 Godavari delta system	2,02,65,951	..	8,818	2,41,375	66,755	3,16,948	56,42,832	1,350	59,58,430
4 Mehamattur anicut system	87,184	..	174	..	1,032	1,206	27,417	..	28,623
5 Thadepalli channel system	1,77,446	..	1,925	..	1,868	3,793	1,59,672	65	1,63,400
6 Kalingarayan channel system	1,80,486	..	2,520	..	2,127	4,647	1,33,882	..	1,38,529
7 Vriddhachalam anicut system	1,08,204	..	789	..	29	818	46,430	112	47,136
8 Chembrambakkam tank system	7,64,143	..	..	..	—10	—10	65,760	..	65,750
9 Marudur anicut system	60,122	..	655	..	2,404	3,059	2,08,784	72	2,11.771
10 Pennar river canals system	70,62,749	..	494	524	4,187	5,205	9,78,265	9	9,83,461
11 Arkenkota channel system	1,44,445	..	616	..	341	957	41,536	..	42,493
12 Tirukkoyilur anicut system	3,99,190	..	1,350	..	771	2,121	1,43,098	15	1,45,204
13 Shatiatope anicut system	10,89,561	..	682	..	661	1,343	1,89,811	..	1,91,154
14 Cheyyar anicut system	5,39,999	..	141	..	665	806	1,18,923	..	1,19,729
15 Cumbum tank system	86,373	..	..	..	..	..	43,852	..	43,852
16 Poiney anicut system	3,03.918	..	145	..	229	374	1,31,316	..	1,31,690
17 Periyar system	1,08,35,654	..	23,916	579	5,957	30,452	11,23,240	439	11,53,253
18 Kistna delta system	2,25,98,708	..	9,963	1,78;711	72,409	2,61,083	54,81,939	3,106	57,39,916
19 Nandiyar channel system	65.715	..	836	21	319	1,176	33,535	2	34,709
20 Lower Coleroon anicut system	30,01,669	..	6,255	43	7,496	13,794	6,56,376	71	6,70,099
21 Kistna east bank canal extension system ..	58,48,641	..	..	2,365	9,951	12,316	6,95,509	619	7,07,206
22 Polavaram island system	17,03,088	..	557	61	785	1,403	1,07,026	4	1,08,425
23 Cauvery-Mettur system	6,47,02,763	..	13,426	6	1,93,181	2,06,613	17,41,595	2,129	19,46,079
24 Kattalai system	41,38,275	..	6,328	49	3,820	10,197	4,18,693	58	4,28,832
25 Tungabhadra Project system	42,404	..	..	..	..	..	..	..	..
Total, A. Irrigation Works—1. Productive Works.	15,46,41,273	..	97,796	4,28,206	4,02,604	9,28,606	2,38,64,556	8,909	2,47,84,253
2. UNPRODUCTIVE WORKS.									
1 Kurnool-Cuddapah canal	2,34,00,773	..	2,387	226	5,533	8,146	4,07,902	17	4,16,031
2 Barur tank	4,52,037	..	2,942	..	51	2,993	26,008	53	28,948
3 Vallur anicut	76,282	..	..	..	270	270	9,301	..	9,571
4 Madras water-supply and irrigation system ..	18,68,918	..	..	..	41,577	41,577	25,535	..	67,112
5 Pelandorai anicut system	6,92,074	..	1,684	..	1,534	3,218	64,888	..	68,106
6 Palar anicut system	24,89,275	..	1,339	..	7,938	9,277	3,97,346	8	4,06,615
7 Chicacole minor rivers system	2,89,226	..	..	..	62	62	1,94,938	..	1,95,000

C-IV.—Statement showing the Financial Results of Irrigation, Navigation, Embankment and Drainage Works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year 1944–45 based on the assessment for the year—*cont.*

Works or systems.	Capital outlay (direct and indirect) to end of the year.	Revenue assessed during the year.							
		Direct revenue.					Indirect revenue and land revenue due to operations of canal.	Less refunds of revenue.	Grand total.
		Owner's rate.	Plantations.	Navigation.	Miscellaneous.	Total.			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
A. IRRIGATION WORKS—*cont.*	RS.		RS.	RS.	RS.	RS.	RS.	RS.	RS.
2. UNPRODUCTIVE WORKS—*cont.*									
8 Muniyeru system	6,09,601	..	633	3	1,153	1,789	43,738	..	45,527
9 Dondapad tank	1,40,004	..	..	..	..	..	2,727	..	2,727
10 Yerur tank	63,353	..	..	..	..	..	3,751	..	3,751
11 Sagileru system	4,64,727	..	—2	..	65	63	16,923	..	16,986
12 Atmakur tank	1,25,403	..	..	..	..	..	2,032	..	2,032
13 Jangamaheswarapuram tank	71,664	..	..	..	..	..	1,332	..	1,332
14 Anamasamudram-Beraperu tank	73,573	..	..	..	..	..	4,131	..	4,131
15 Hajipuram tank	3,11,883	..	..	..	..	..	5,558	..	5,558
16 Ponnalur tank	2,18,649	..	..	..	..	..	7,307	..	7,307
17 Markapur tank	1,29,340	..	10	..	22	32	11,154	..	11,186
18 Nagavalli river system	17,95,742	..	15	..	523	538	1,46,594	..	1,47,132
19 Venkatapuram tank	3,84,921	..	..	..	..	..	3,541	..	3,541
20 Bhavanasi tank	2,65,491	..	70	..	120	190	5,798	..	5,988
21 Yellanur tank	2,69,707	..	..	..	..	..	3,096	..	3,096
22 Panjapatti reservoir system	3,39,276	..	..	..	73	73	..	..	73
23 Siddapur tank	8,04,486	..	..	..	4	4	7,288	..	7,292
24 Nagavaram anicut and supply channel	1,09,890	..	..	..	8	8	5,597	..	5,605
25 Mopad reservoir system	24,06,721	..	..	..	199	199	51,163	..	51,362
26 Kanniyampalayam anicut	1,11,074	..	..	..	..	..	2,698	..	2,698
27 Toludur reservoir system	26,22,781	..	932	..	1,344	2,276	1,63,542	..	1,65,818
28 Tippayapalem project	5,84,216	..	..	..	..	..	6,512	..	6,512
29 Basavanna channel	5,89,780	..	..	..	245	245	..	..	245
30 Duvvaleru project	1,47,515	..	..	..	..	..	..	..	..
31 Uduthorahalla scheme	1,44,255	..	..	..	..	..	..	..	..
32 Mahadevapuram tank project	14,421	..	..	..	..	..	..	..	..
Total, A. Irrigation Works—2. Unproductive Works.	4,20,67,058	..	10,010	229	60,721	70,960	16,20,400	78	16,91,282
Total, A. Irrigation Works	19,67,08,331	..	1,07,806	4,28,435	4,63,325	9,99,566	2,54,84,956	8,987	2,64,75,535
B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS.									
2. UNPRODUCTIVE WORKS.									
1 Vedaranniyam canal	1,36,432	..	27	1,058	..	1,085	..	..	1,085
2 Buckingham canal	95,36,345	..	2,567	1,27,684	4,959	1,35,210	..	253	1,34,957
Total, B. Navigation, etc., Works—2. Unproductive Works.	96,72,777	..	2,594	1,28,742	4,959	1,36,295	..	253	1,36,042
Total, B. Navigation, etc., Works	96,72,777	..	2,594	1,28,742	4,959	1,36,295	..	253	1,36,042
Total, Construction of Irrigation, etc., Works	20,63,81,108	..	1,10,400	5,57,177	4,68,284	11,35,861	2,54,84,956	9,240	26,61,157

and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year 1944–45 based on the assessment for the year—*cont.*

Works or systems.	Revenue assessed during the year—*cont.* Deduct share due to old irrigation.	Total revenue due to improvements.	Working expenses. Total charges (direct and indirect).	Deduct old maintenance charges.	Total working expenses on improvements.	Net revenue of the year. Total.	Due to improvements.	Percentage on capital outlay to end of the year (improvements only).
	(11) RS.	(12) RS.	(13) RS.	(14) RS.	(15) RS.	(16) RS.	(17) RS.	(18) RS.
A. IRRIGATION WORKS.								
1. PRODUCTIVE WORKS.								
1 Cauvery delta system	38,37,825	16,49,610	12,92,427	9,10,436	3,81,991	41,95,008	12,67,619	14·64
2 Srivaikuntam anicut system	79,000	1,58,077	55,185	7,039	48,146	1,81,892	1,09,931	6·19
3 Godavari delta system	1,24,000	58,34,430	19,44,546	..	19,44,546	40,13,884	38,89,884	19·19
4 Mehamattur anicut system	4,000	24,623	9,149	834	8,315	19,474	16,308	18·71
5 Thadepalli channel system	76,000	87,400	17,597	4,956	12,641	1,45,803	74,759	42·13
6 Kalingarayan channel system	85,000	53,529	15,565	5,541	10,024	1,22,964	43,505	24·10
7 Vriddhachalam anicut system	8,500	38,636	13,489	..	13,489	33,647	25,147	23·24
8 Chembrambakkam tank system	16,000	49,750	71,471	5,812	65,659	— 5,721	— 15,909	— 2·08
9 Marudur anicut system	1,15,000	96,771	26,337	5,950	20,387	1,85,434	76,384	127·05
10 Pennar river canals system	2,56,000	7,27,461	2,16,735	32,031	1,84,704	7,76,726	5,42,757	7·68
11 Arkenkota channel system	19,000	23,493	4,940	1,239	3,701	37,553	19,792	13·70
12 Tirukkoyilur anicut system	60,000	85,204	98,188	6,460	91,728	47,016	— 6,524	— 1·63
13 Shatiatope anicut system	20,000	1,71,154	63,699	2,155	61,544	1,27,455	1,09,610	10·06
14 Cheyyar anicut system	39,000	80,729	1,17,868	4,450	1,13,418	1,861	— 32,689	— 6·05
15 Cumbum tank system	30,000	13,852	3,079	1,033	2,046	40,773	11,806	1·367
16 Poiney anicut system	38,100	93,590	68,329	4,305	64,024	63,361	29,566	9·73
17 Periyar system	2,04,000	9,49,253	3,24,616	32,784	2,91,832	8,28,637	6,57,421	6·07
18 Kistna delta system	71,000	56,68,916	15,50,041	..	15,50,041	41,89,875	41,18,875	18·23
19 Nandiyar channel system	17,000	17,709	8,772	4,201	4,571	25,937	13,138	19·99
20 Lower Coleroon anicut system	1,55,000	5,15,099	2,26,522	9,538	2,16,984	4,43,577	2,98,115	9·93
21 Kistna east bank canal extension system	20,300	6,86,906	1,16,274	15,812	1,00,462	5,90,932	5,86,444	10·03
22 Polavaram island system	..	1,08,425	58,499	..	58,499	49,926	49,926	2·93
23 Cauvery-Mettur system	99,971	18,46,108	6,19,486	14,936	6,04,550	13,26,593	12,41,558	1·92
24 Kattalai system	2,54,000	1,74,832	83,191	63,544	19,647	3,45,641	1,55,185	3·75
25 Tungabhadra Project system	..	..	..	..	..	..	..	..
Total, A. Irrigation Works—1. Productive Works.	56,28,696	1,91,55,557	70,06,005	11,33,056	58,72,949	1,77,78,248	1,32,82,608	8·59
2. UNPRODUCTIVE WORKS.								
1 Kurnool-Cuddapah canal	35,872	3,80,159	1,31,567	3,895	1,27,672	2,84,464	2,52,487	1·08
2 Barur tank	5,900	23,048	7,987	..	7,987	20,961	15,061	3·33
3 Vallur anicut	5,000	4,571	1,996	1,407	589	7,575	3,982	5·22
4 Madras water-supply and irrigation system	11,000	56,112	29,833	4,104	25,729	37,279	30,383	1·63
5 Pelandorai anicut system	3,000	65,106	24,199	153	24,046	43,907	41,060	5·93
6 Palar anicut system	1,25,000	2,81,615	6,44,514	4,285	6,40,229	— 2,37,899	— 3,58,614	—14·41
7 Chicacole minor rivers system	95,000	1,00,000	69,251	5,843	63,408	1,25,749	36,592	12·65
8 Muniyeru system	2,500	43,027	24,800	287	24,513	20,727	18,514	3·04
9 Dondapad tank	..	2,727	1,493	..	1,493	1,234	1,234	0·88
10 Yerur tank	425	3,326	667	..	667	3,084	2,659	4·20
11 Sagileru system	17,800	— 814	5,272	2,847	2,425	11,714	— 3,239	— 0·70
12 Atmakur tank	..	2,032	818	..	818	1,214	1,214	0·97

C-IV.—Statement showing the Financial Results of Irrigation, Navigation, Embankment and Drainage Works (classed as " Productive " and " Unproductive ") for which Capital and Revenue Accounts are kept in the Madras Presidency for the year 1944–45 based on the assessment for the year—*cont.*

Works or systems.	Revenue assessed during the year—*cont.*		Working expenses.			Net revenue of the year.		Percentage on capital outlay to end of the year (improvements only).
	Deduct share due to old irrigation.	Total revenue due to improvements.	Total charges (direct and indirect).	Deduct old maintenance charges.	Total working expenses on improvements.	Total.	Due to improvements.	
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
A. IRRIGATION WORKS—*cont.*								
2. UNPRODUCTIVE WORKS—*cont.*								
13 Jangamaheswarapuram tank	500	832	1,164	..	1,164	168	− 332	− 0·46
14 Anamasamudram Beraperu tank	3,600	531	21,541	691	20,850	− 17,410	− 20,319	− 27·62
15 Hajipuram tank	..	5,558	433	..	433	5,125	5,125	1·64
16 Ponnalur tank	..	7,307	731	..	731	6,576	6,576	3·01
17 Markapur tank	2,130	9,056	3,707	316	3,391	7,479	5,665	4·38
18 Nagavalli river system	37,400	1,09,732	35,036	3,631	31,405	1,12,096	78,327	4·36
19 Venkatapuram tank	..	3,541	1,064	..	1,064	2,477	2,477	0·64
20 Bhavanasi tank	..	5,988	5,052	..	5,052	936	936	0·35
21 Yellanur tank	..	3,096	2,031	..	2,031	1,065	1,065	0·39
22 Panjapatti reservoir system	..	73	83,629	..	83,629	− 83,556	− 83,556	− 24·63
23 Siddapur tank	..	7,292	1,558	..	1,558	5,734	5,734	0·71
24 Nagavaram anicut and supply channel	2,256	3,349	12,589	..	12,589	− 6,984	− 9,240	− 8·41
25 Mopad reservoir system	433	50,929	9,611	..	9,611	41,751	41,318	1·72
26 Kanniyampalayam anicut	..	2,698	8,885	..	8,885	− 6,187	− 6,187	− 5·57
27 Tholudur reservoir system	10,590	1,55,228	44,727	..	44,727	1,21,091	1,10,501	4·21
28 Tippayapalem project	..	6,512	4,563	..	4,563	1,949	1,949	0·33
29 Basavanna channel	..	245	7,844	..	7,844	− 7,599	− 7,599	− 1·29
30 Duvvaleru project	..	..	1,864	..	1,864	− 1,864	− 1,864	− 1·25
31 Uduthorahalla scheme	..	..	..	..	..	..	..	..
32 Mahadevapuram tank project	..	..	..	..	..	..	..	..
Total, A. Irrigation Works—2. Unproductive Works.	3,58,406	13,32,876	11,88,426	27,459	11,60,967	5,02,856	1,71,909	0·41
Total, A. Irrigation Works ..	59,87,102	2,04,88,433	81,94,431	11,60,515	70,33,916	1,82,81,104	1,34,54,517	6·84
B. NAVIGATION, EMBANKMENT AND DRAINAGE WORKS.								
2. UNPRODUCTIVE WORKS.								
1 Vedaranniyam canal	..	1,085	3,651	..	3,651	− 2,566	− 2,566	− 1·88
2 Buckingham canal	..	1,34,957	6,58,413	..	6,58,413	− 5,23,456	− 5,23,456	− 5·49
Total, B. Navigation, etc., Works—2. Unproductive Works.	..	1,36,042	6,62,064	..	6,62,064	− 5,26,022	− 5,26,022	− 5·44
Total, B. Navigation, etc., Works ..	..	1,36,042	6,62,064	..	6,62,064	− 5,26,022	− 5,26,022	− 5·44
Total, Construction of Irrigation, etc., Works ..	59,87,102	2,06,24,475	88,56,495	11,60,515	76,95,980	1,77,55,082	1,29,28,495	6·26

(1)		Godavari canals. (2)	Kistna canals. (3)	Kistna East Bank canal. (4)	Kurnool-Cuddapah canal. (5)	Buckingham canal. (6)	West Coast canals. (7)	Dummagudem canal. (8)	Vedaranyam canal. (9)	Total. (10)
Length of canals open for navigation	Miles.	491⅝	384½	35½	74	262	121	2	31¾	1,402½
Receipts—										
Tolls	Rs.	..	..	..	..	..	34,927	..	..	..
Testing fees	,,	34	443	3	..	141	..	..	..	..
Annual licence fees	,,	1,17,279	53,007	549	..	1,01,280	9,217	954	994	..
Six weeks' licence fees	,,		28,133	422	..				4	..
Registration fees	,,	2	2	..	..	..	..	..	..	..
Wharfage fees	,,	16,398	34,912	863	..	18,338	..	..	..	..
Demurrage fees	,,	201	1,841	12	..	123	..	..	..	..
Raft fees	,,	1,214	1,113	..	..	20	..	12,399	..	..
Numbering fees	,,	185	..	..	..	540	..	..	54	..
Fines	,,	50	2	..	..	108	..	..	6	..
Ground rents	,,	21,816	53,484	185	..	..	..	14	..	..
Miscellaneous	,,	..	..	..	..	7,348	1,086	53	27	..
Refunds	,,	– 147	– 53	..	..	– 256	..	..	..	..
Government boats and steamers	,,	79,583	4,179	..	..	..	..	..	..	..
Boat rent	,,	1,514	345	..	..	410	..	..	..	..
Other refunds	,,	– 128	..	..	..	..	..	..	..	..
Duplicate fees	,,	29	16	..	..	74	..	2	..	..
Hire on punts	,,	..	1,158	331	..	..	..	..	..	..
Berm rent	,,	..	..	..	..	6,376	..	..	..	..
Total, Receipts ..	,,	2,38,030	1,78,582	2,365	..	1,34,502	45,230	13,422	1,035	..
Maintenance charges including navigation establishment ..	,,	2,35,323	2,11,936	16,209	..	3,32,761	47,344	7,063	2,787	..
Net revenue ..		2,707	–33,354	–13,844	..	– 1,98,259	—2,114	6,359	– 1,702	..
Total number of boats plying, cargo		60,501	7,039	400	..	..	..	88	105	..
Total number of boats plying, passengers		22,595		41	..	..	..			..
Total tonnage, cargo boats	Tons.	2,327,934	1,098,669	25,971	..	..	132,232	1,733	6,035	..
Total tonnage, passenger boats										
Ton mileage, up		6,642,375	12,484,167	493,129	..	5,840,310	..	578½	39,821	..
Ton mileage, down			10,645,283	675,182	..			50,836½	98,432	..
Total ..		6,642,375	23,129,450	1,168,311	..	5,840,310	..	51,415	138,253	..
Estimated value of cargoes, up	Rs.	27,65,60,202	67,13,75,051	47,11,969	..	17,53,94,234	6,94,28,791	2,87,670	10,06,983	..
Estimated value of cargoes, down								11,29,407½		
Total ..		27,65,60,202	67,13,75,051	47,11,969	..	17,53,94,234	6,94,28,791	14,17,077½	10,06,983	..
Number of passengers		..	1,68,980	28,091	..	1,80,763	..	..	..	..
Rafts, tons, up		..	..	..	..	..	..	49,682	..	..
Rafts, tons, down		271,749	13,164	..	..	..	..	..	..	
Total ..		271,749	13,164	..	..	..	..	49,682	..	..
Estimated value of cargoes on rafts	Rs.	1,83,06,840	38,56,738	..	..	..	..	2,09,65,360	..	..
		RS. A. P.						RS. A. P.		
Tollage on boats, per ton, per mile	,,	..	..	..	..	..	..	0 3 0	..	..
Tollage on rafts, per 100 sq.ft.	,,	..	..	..	..	..	..	0 4 0	..	..
Timber	,,	..	..	..	..	..	..	..	..	..
Bamboo	,,	..	..	..	..	..	..	0 2 0	..	..

D-II.—Description and Quantity of Goods, etc., carried on the Principal Canals in the Madras Province during the year 1944–45.

Description.	Godavari canals. — Total, Government and private. — Quantity. — Up.	Godavari canals. — Total, Government and private. — Quantity. — Down.	Godavari canals. — Total, Government and private. — Quantity. — Total.	Godavari canals. — Total, Government and private. — Value.	Godavari canals. — Private. — Quantity.	Godavari canals. — Private. — Value.	Kistna canals. — Total, Government and private. — Quantity. — Up.	Kistna canals. — Total, Government and private. — Quantity. — Down.	Kistna canals. — Total, Government and private. — Quantity. — Total.	Kistna canals. — Total, Government and private. — Value.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	TONS.	TONS.	TONS.	RS.	TONS.	RS.	TONS.	TONS.	TONS.	RS.
Boat traffic.										
Cotton, raw and manufactured ..	3,278	943	4,221	2,72,11,175	4,221	2,72,11,175	217	362	579	6,88,884
Woollen goods	20	..	20	53,600	20	53,600	701	513	1,214	61,02,834
Dyes and tans	131	449	580	41,42,100	580	41,42,100	121	..	121	11,80,907
Rice and paddy	111,333	31,406	142,739	1,66,41,885	142,739	1,66,41,885	83,024	75,886	158,910	3,07,00,393
Other foodgrains	1 315	8,085	9,400	32,90,000	9,400	32,90,000	13,881	51,075	64,956	2,80,60,[illegible]92
Hides and skins	24	122	146	4,59,000	146	4,59,000	350	22	372	12,69,858
Liquors	175	1,663	1,838	91,90,000	1,838	91,90,000	2,119	5,733	7,852	3,21,38,236
Metals	5,275	3,842	9,117	35,47,150	9,117	35,47,150	3,070	2,001	5,071	1,79,1[illegible],772
Oils	2,000	2,976	4,976	92,05,600	4,976	92,05,600	9,023	8,373	17,396	2,63,89,732
Oil-seeds	1,729	2,968	4,697	39,92,450	4,697	39,92,450	30,984	80,224	111,208	9,68,62,168
Provisions	74,736	40,830	115,566	15,25,47,120	115,566	15,25,47,120	37,341	130,471	167,812	21,04,36,248
Salt	14,548	3,378	17,926	11,65,190	17,926	11,65,190	56,685	1,928	58,613	77,95,529
Spices	11	257	268	13,40,000	268	13,40,000	21	..	21	1,08,213
Sugar and jaggery	12,625	13,947	26,572	69,25,750	26,572	69,25,750	6,629	49,889	56,518	2,43,02,382
Tobacco	2,283	5,466	7,749	1,24,69,625	7,749	1,24,69,625	15,488	32,613	48,101	13,44,51,728
Building materials	90,657	200,620	291,277	15,64,213	291,277	15,64,213	48,800	148,828	197,628	31,88,751
Miscellaneous goods	33,034	23,885	56,919	1,42,00,160	56,919	1,42,00,160	31,606	17,448	49,054	1,18,37,714
Timber	980	11,076	12,056	66,36,300	12,056	66,36,300	8,324	52,350	60,674	2,97,30,260
Firewood	32,337	16,371	48,708	31,66,020	48,708	31,66,020	32,825	5,873	30,698	13,54,430
Bamboos	1,746	23,261	25,007	30,00,840	25,007	30,00,840	10,901	30,613	41,514	50,23,194
Coal and coke	239	376	615	1,32,225	615	1,32,225	2,484	9,661	12,145	17,24,590
Jute	1	..	1	825	1	825	197	15	212	1,17,236
Treasure	..	..	..	..	..	..	..	..	..	..
Kerosene oil	..	..	..	..	..	..	..	..	..	..
Cotton seeds	..	..	..	..	..	..	..	..	..	..
Poles	..	..	..	..	..	..	..	..	..	..
Scantlings	..	..	..	..	..	..	..	..	..	..
Total, Boat traffic ..	388,477	388,921	878,408	28,08,81,228	878,408	28,08,81,228	394,791	703,878	1,098,669	67,13,75,051
Raft traffic.										
Timber in logs	640	36,299	36,939	1,53,29,685	36,939	1,53,29,685	1,373	6,561	7,934	32,29,138
Squared timber	..	..	..	..	..	..	..	..	..	..
Sleepers, broad gauge	..	..	..	..	..	..	..	..	..	..
Do. metre gauge	..	..	..	..	..	..	..	..	..	..
Scantlings	..	..	..	..	..	..	..	..	..	..
Poles	..	29	29	2,030	29	2,030	..	..	..	..
Firewood	..	25,793	25,793	32,24,125	25,793	32,24,125	1,676	3,554	5,230	6,27,600
Bamboos and reeds	..	..	..	..	..	..				
Total, Raft traffic ..	640	62,121	62,761	1,85,55,840	62,761	1,85,55,840	3,049	10,115	13,164	38,56,738
Grand total ..	389,117	451,042	941,169	29,94,37,068	941,169	29,94,37,068	397,840	713,993	1,111,833	67,52,31,789

D-II.—Description and Quantity of Goods, etc., carried on the Principal Canals in the Madras Province during the year 1944–45—*cont.*

Description.	Kistna canals—*cont.* Private. Quantity. (12)	Kistna canals—*cont.* Private. Value. (13)	Kistna East bank canal. Total, Government and private. Quantity. Up. (14)	Quantity. Down. (15)	Quantity. Total. (16)	Value. (17)	Kistna East bank canal. Private. Quantity. (18)	Private. Value. (19)	Kurnool-Cuddapah canal. Total, Government and private. Quantity. Up. (20)	Quantity. Down. (21)	Quantity. Total. (22)	Value. (23)	Kurnool-Cuddapah canal. Private. Quantity. (24)	Private. Value. (25)
	TONS.	RS.	TONS.	TONS.	TONS.	RS.	TONS.	RS.						
Boat traffic.														
Cotton, raw and manufactured ..	579	6,68,884	..	..	..	..	..	..	..	..	..	..	..	..
Woollen goods	1,214	61,02,834	..	..	..	..	..	..	..	..	..	..	..	..
Dyes and tans and indigo.. ..	121	11,80,907	1	..	1	18,417	1	18,417	..	..	..	..	..	..
Rice and paddy	158,910	3,07,00,393	16,018	..	16,018	26,72,065	16,018	26,72,065	..	..	..	..	..	..
Other foodgrains	64,956	2,80,60,992	253	2	255	1,10,160	255	1,10,160	..	..	..	..	..	..
Hides and skins	372	12,69,858	4	..	4	11,756	4	11,756	..	..	..	..	..	..
Liquors	7,852	3,21,38,236	..	..	..	..	..	..	..	..	..	..	..	..
Metals	5,071	1,79,10,772	5	..	5	17,660	5	17,660	..	..	..	..	..	..
Oils	17,396	2,63,80,732	..	..	..	..	..	..	..	..	..	..	..	..
Oil-seeds	111,208	9,68,62,168	56	..	56	48,776	56	48,776	..	..	..	..	..	..
Provisions	167,812	21,04,36,248	829	..	829	10,39,566	829	10,39,566	..	..	..	..	..	..
Salt	58,613	77,95,529	..	..	..	..	..	..	..	..	..	..	..	..
Spices	21	1,08,213	..	..	..	..	..	..	..	..	..	..	..	..
Sugar and jaggery	56,518	2,43,02,382	..	..	..	..	..	..	..	..	..	..	..	..
Tobacco	48,101	13,44,51,728 {	302	..	302	5,62,928	302	5,62,928 }	..	..	..	..	..	..
			50	..	50	1,39,850	50	1,39,850 }						
Building materials	179,549	31,00,137	8	8,243	8,251	46,187	5,272	31,292	..	..	..	..	..	..
Miscellaneous goods	49,054	1,18,37,714	132	31	163	43,224	163	43,224	..	..	..	..	..	..
Timber	60,674	2,97,30,260	..	..	..	..	..	..	..	..	..	..	..	..
Firewood	30,698	13,54,430	36	..	36	1,260	36	1,260	..	..	..	..	..	..
Bamboos	41,514	50,23,194	1	..	1	120	1	120	..	..	..	..	..	..
Coal and coke	12,145	17,24,590	..	..	..	..	..	..	..	..	..	..	..	..
Jute	212	1,17,236	..	..	..	..	..	..	..	..	..	..	..	..
Treasure	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kerosene oil	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cotton seeds	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poles	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scantlings	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total, Boat traffic ..	1,080,590	67,12,86,437	17,695	8,276	25,971	47,11,969	22,992	46,97,074	..	..	..	..	..	..
Raft traffic.														
Timber in logs	7,934	32,29,138	..	..	..	..	..	..	..	..	..	..	..	..
Squared timber	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sleepers, broad gauge	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Do. metre gauge	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scantlings	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poles	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Firewood	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bamboos and reeds	5,230	6,27,600	..	..	..	..	..	..	..	..	..	..	..	..
Total, Raft traffic ..	13,164	38,56,738	..	..	..	..	..	..	..	..	..	..	..	..
Grand total ..	10,93,754	67,51,43,175	17,695	8,276	25,971	47,11,969	22,992	46,97,074	..	..	..	..	..	..

D-II.—Description and Quantity of Goods, etc., carried on the Principal Canals in the Madras Province during the year 1944–45—*cont.*

Description.	Buckingham canal.						West Coast canals.					
	Total, Government and private.				Private.		Total, Government and private.				Private.	
	Quantity.			Value.	Quantity.	Value.	Quantity.			Value.	Quantity.	Value.
	Up.	Down.	Total.				Up.	Down.	Total.			
	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)
Boat traffic.	TONS.	TONS.	TONS.	RS.	TONS.	RS.	TONS.	TONS.	TONS.	RS.	TONS.	RS.
Cotton, raw and manufactured Woollen goods	64	67	131	6,56,834	131	6,56,834	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..
Dyes and tans and indigo	104	..	104	12,58,088	104	12,58,088	..	..	..	..	..	..
Rice and paddy	31,742	20,530	52,272	1,13,90,080	52,272	1,13,90,080	32,027	..	32,027	1,01,75,584	32,027	1,01,75,584
Other foodgrains	7,655	3,283	10,938	80,50,368	10,938	80,50,368	7,778	..	7,778	41,23,340	7,778	41,23,340
Hides and skins	..	2	2	6,830	2	6,830	..	..	..	..	..	..
Liquors	1,124	42	1,166	64,13,000	1,166	64,13,000	..	..	3,100	70,43,200	3,100	70,43,200
Metals	510	1,654	2,164	93,05,200	2,164	93,05,200	..	..	420	24,69,600	..	..
Oils	992	1,967	2,969	53,26,200	2,959	53,26,200	..	..	1,053	17,19,549	1,053	17,19,549
Oil-seeds	44,848	3,649	48,497	2,90,98,200	48,497	2,90,98,200	..	..	2,889	18,60,516	2,889	18,60,516
Provisions	22,062	5,402	27,464	3,70,76,400	27,464	3,70,76,400	..	..	28,003	2,74,42,940	28,003	2,74,42,940
Salt	28,854	12,322	41,176	49,41,120	41,176	49,41,120	..	..	7,044	6,76,224	7,044	6,76,224
Spices	..	..	..	..	..	..	..	..	239	13,73,533	239	13,73,533
Sugar and jaggery	5,014	1,500	6,514	16,48,220	6,514	16,48,220	..	..	6,799	26,10,587	6,799	26,10,587
Tobacco	21,258	2,512	23,770	4,27,86,000	23,770	4,27,86,000	..	..	1,234	18,36,192	1,234	18,36,192
Building materials	27,782	11,219	39,001	18,76,797	39,001	18,76,797	..	..	4,409	1,57,892	4,409	1,57,892
Miscellaneous goods	35,976	26,639	62,615	40,15,180	62,615	40,15,180	..	..	39,758	70,07,138	39,758	70,07,138
Timber	5,951	251	6,202	61,88,400	6,202	61,88,400	..	..	3,349	15,62,936	3,349	15,62,936
Firewood	93,564	5,363	98,927	30,66,737	98,927	30,66,737	..	..	2,217	79,812	2,217	79,812
Bamboos	4,685	11	4,696	17,84,480	4,696	17,84,480	..	..	..	..	..	..
Coal and coke and charcoal	3,278 98	169 ..	3,447 98	4,82,580 23,520	3,447 98	4,82,580 23,520	..	..	832	44,928	832	44,928
Jute	..	..	..	..	..	..	..	..	..	..	..	..
Treasure	..	..	..	..	..	..	..	..	..	..	..	..
Kerosene oil	..	..	..	..	..	..	..	..	1,081	2,37,820	1,081	2,37,820
Cotton seeds	..	..	..	..	..	..	..	..	..	..	..	..
Poles	..	..	..	..	..	..	..	..	..	..	..	..
Scantlings	..	..	..	..	..	..	..	..	..	..	..	..
Total, Boat traffic	335,561	96,582	432,143	17,53,94,234	432,143	17,53,94,234	39,805	..	132,232	6,94,28,791	132,232	6,94,28,791
Raft traffic.												
Timber in logs	..	..	..	..	..	..	..	..	..	..	..	..
Squared timber	..	..	..	..	..	..	..	..	..	..	..	..
Sleepers, broad gauge	..	..	..	..	..	..	..	..	..	..	..	..
Do. metre gauge	..	..	..	..	..	..	..	..	..	..	..	..
Scantlings	..	..	..	..	..	..	..	..	..	..	..	..
Poles	..	..	..	..	..	..	..	..	..	..	..	..
Firewood	..	..	..	..	..	..	..	..	..	..	..	..
Bamboos and reeds	..	..	..	..	..	..	..	..	..	..	..	..
Total, Raft traffic	..	..	..	..	..	..	..	..	..	..	..	..
Grand total	335,561	96,582	432,143	17,53,94,234	432,143	17,53,94,234	39,805	..	132,232	6,94,28,791	132,232	6,94,28,791

D-II.—Description and Quantity of Goods, etc., carried on the Principal Canals in the Madras Province during the year 1944–45—*cont.*

Description.	Dummagudem canal. Total, Government and private. Quantity. Up. (38)	Down. (39)	Total. (40)	Value. (41)	Private. Quantity. (42)	Value. (43)	Vedaranyam canal. Total, Government and private. Quantity. Up. (44)	Down. (45)	Total. (46)	Value. (47)	Private. Quantity. (48)	Value. (49)
	TONS.	TONS.	TONS.	RS.	TONS.	RS.	TONS.	TONS.	TONS.	RS.	TONS.	RS.
Boat traffic.												
Cotton, raw and manufactured ..	..	..	..	..	..	..	..	15	15	20,100	15	20,100
Woollen goods	..	..	..	..	..	..	..	..	..	..	..	..
Dyes and tans	..	12½	12½	1,11,250	12½	1,11,250	..	..	..	..	..	..
Rice and paddy	32	81	113	21,750	113	21,750	..	8	8	1,600	8	1,600
Other foodgrains	..	340½	340½	2,89,425	340½	2,89,425	..	..	..	..	..	..
Hides and skins	..	..	..	..	..	..	..	..	..	..	..	..
Liquors	33½	..	33½	1,67,500	33½	1,67,500	..	..	..	..	..	..
Metals	½	..	½	925	½	925	..	..	..	..	..	..
Oils	7½	..	7½	13,875	7½	13,875	..	..	..	..	..	..
Oil seeds	..	137½	137½	48,125	137½	48,125	1	36	37	23,828	37	23,828
Provisions	10	33½	43½	57,420	43½	57,420	7	72	79	77,420	79	77,420
Salt	186	..	186	12,090	186	12,090	..	244	244	23,424	244	23,424
Spices	..	..	..	..	..	..	112	..	112	6,43,664	112	6,43,664
Sugar and jaggery	12	..	12	3,250	12	3,250	..	..	..	..	..	..
Tobacco	..	347	347	5,20,500	347	5,20,500	..	5	5	5,710	5	5,710
Building materials	2½	..	2½	75	2½	75	3	50	53	1,851	53	1,851
Miscellaneous goods	294½	19½	314	70,242½	314	70,242½	1,056	4,426	5,482	2,09,386	5,482	2,09,386
Timber	..	183	183	1,00,650	183	1,00,650	..	..	..	..	..	..
Firewood	..	..	..	..	..	..	..	..	..	..	..	..
Bamboos	..	..	..	..	..	..	..	..	..	..	..	..
Coal and coke	..	..	..	..	..	..	..	..	..	..	..	..
Jute	..	..	..	..	..	..	..	..	..	..	..	..
Treasure	..	..	..	..	..	..	..	..	..	..	..	..
Kerosene oil	..	..	..	..	..	..	..	..	..	..	..	..
Cotton seeds	..	..	..	..	..	..	..	..	..	..	..	..
Poles	..	..	..	..	..	..	..	..	..	..	..	..
Scantlings	..	..	..	..	..	..	..	..	..	..	..	..
Total, Boat traffic ..	578½	1,154½	1,733	14,17,077½	1,733	14,17,077½	1,179	4,856	6,035	10,06,983	6,035	10,06,983
Raft traffic.												
Timber in logs	..	41,659	41,659	1,72,88,485	41,659	1,72,88,485	..	..	..	..	..	..
Squared timber	..	5,127	5,127	32,04,375	5,127	32,04,375	..	..	..	..	..	..
Sleepers, broad gauge	..	..	..	..	..	..	..	..	..	..	..	..
Do. metre gauge	..	..	..	..	..	..	..	..	..	..	..	..
Scantlings	..	..	..	..	..	..	..	..	..	..	..	..
Poles	..	260	260	1,43,000	260	1,43,000	..	..	..	..	..	..
Firewood	..	..	..	..	..	..	..	..	..	..	..	..
Bamboos and reeds	..	2,636	2,636	3,29,500	2,636	3,29,500	..	..	..	..	..	..
Total, Raft traffic ..	..	49,682	49,682	2,09,65,360	49,682	2,09,65,360	..	..	..	..	..	..
Grand total ..	578½	50,836½	51,415	2,23,82,437½	51,415	2,23,82,437½	1,179	4,856	6,035	10,06,983	6,035	10,06,983

E-I.—Statement of area irrigated under Irrigation Works classed as Productive and Unproductive for which Capital and Revenue Accounts are kept in the Madras Province during the year 1944–45.

Name of canal.	Area charged as irrigated in acres. First crop. Flow.	First crop. Lift.	Second crop. Flow.	Second crop. Lift.	Total.	Both seasons.	Percentage of double cropped area [columns (4) and (5)] on the first crop area [columns (2) and (3)].
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Productive.							
1 Cauvery delta system ..	872,289	26,019	149,045	5,234	1,052,587	17,390	17·17
2 Srivaikuntam anicut system.	23,867	2,422	14,324	279	40,892	690	55·55
3 Godavari delta system ..	818,686	21,060	292,406	10,101	1,142,253	13,839	36·02
4 Mehamattur anicut system.	4,848	254	623	1	5,726	624	12·23
5 Thadepalle channel	14,937	503	4,214	305	19,959	65	29·07
6 Kalingaroyan channel ..	9,830	2,715	11,102	2,201	25,848	1,855	10·60
7 Vriddhachalam anicut system.	9,936	113	517	10	10,576	533	5·24
8 Chembarambakkam tank ..	14,255	184	6,062	69	20,570	589	42·46
9 Marudur anicut system ..	17,390	259	10,252	84	27,985	495	58·56
10 Pennar river canals system.	166,538	2,829	32,500	709	202,576	2,941	19·60
11 Arakenkota channel ..	4,605	216	508	29	5,368	14	11·11
12 Tirukkoyilur anicut system..	28,443	1,701	5,358	324	35,502	476	18·84
13 Shatiatope anicut system ..	32,839	1,649	10,410	218	45,116	63	30·81
14 Cheyyar anicut system ..	20,427	1,575	13,932	316	36,250	274	64·75
15 Cumbum tank	5,562	88	4,505	45	10,200	345	80·05
16 Poiney anicut system ..	22,722	955	9,975	135	33,787	178	42·69
17 Periyar system	137,388	2,675	56,550	1,282	197,895	3,791	41·28
18 Kistna delta system ..	949,513	18,132	81,789	621	105,055	14,599	8·56
19 Nandyar channel system ..	6,549	901	2,602	271	10,323	1,034	38·56
20 Lower Coleroon anicut system.	110,838	1,965	13,391	404	126,598	1,359	12·24
21 Kistna East Bank Canal extension scheme.	94,959	1,009	4,857	6	100,831	1,009	5·06
22 Polavaram Island project ..	15,168	33	6,466	1	21,668	16	42·60
23 Cauvery-Mettur project ..	168,850	20,799	48,252	7,575	245,476	1,407	29·43
24 Kattalai scheme	51,108	2,451	16,934	755	71,248	4,590	33·03
Unproductive.							
1 Kurnool-Cuddapah canal ..	78,648	858	13,343	142	92,991	2,118	14·44
2 Barur tank	4,250	207	1,389	6	5,852	579	31·29
3 Vallur anicut system ..	4,127	933	437	44	5,541	47	9·51
4 Madras water-supply and irrigation system.	7,715	238	2,607	110	10,670	58	34·16
5 Pelandorai anicut system ..	13,147	1,167	1,233	43	15,590	137	8·91
6 Palar anicut system	75,847	3,734	40,771	1,765	122,717	689	53·44
7 Chicacole minor rivers system.	78,750	2,587	6,965	1,971	90,273	79	10·98
8 Muniyeru anicut system ..	8,940	92	82	2	9,116	..	9·12
9 Dondapad tank	518	..	199	..	717	..	38·41
10 Yerur tank	1,343	28	..	..	1,371	..	..
11 Sagileru system	3,634	79	10	..	3,723	10	..
12 Atmakur tank	489	..	3	..	492	1	..
13 Jangamaheswarapuram tank.	266	..	48	..	314	..	..
14 Anamasamudram Buraperu tank.	1,000	7	8	..	1,015	..	..
15 Hajipuram tank	893	..	849	..	1,742	..	95·07
16 Ponnalur tank	779	..	612	..	1,391	15	78·56
17 Markapur tank	1,439	..	1,097	32	2,568	..	78·45
18 Nagavalli river system ..	28,305	284	937	109	29,635	42	3·65
19 Venkatapuram tank ..	310	..	194	..	504	..	62·58
20 Bhavanasi tank	602	3	..	1	606	164	..
21 Yellanur tank	551	..	3	..	554	2	..
22 Panjapatti reservoir	..	..	..	..	..	..	..
23 Siddhapur tank	1,007	..	8	..	1,015	..	..
24 Nagavaram anicut and supply canal.	613	9	501	3	1,126	60	81·02
25 Mopad reservoir	5,892	3	539	106	6,540	152	10·94
26 Kanniyampalaiyam anicut ..	308	..	134	..	442	..	43·51
27 Toludur reservoir system ..	20,656	331	5,385	22	26,394	1,730	25·76
28 Thippayapalem project ..	794	8	284	..	1,086	..	35·41
29 Basavannah channel ..	..	..	..	..	..	..	..
30 Duvvaleru project	..	..	..	..	..	..	..

E-II.—Statement showing the incidence of Working Expenses and Assessed Water Revenue on Irrigation Works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Province during 1944–45.

Name of canal.	Average discharge of the year at canal head in cubic feet per second.	Water assessed, 1944–45. Direct.	Water assessed, 1944–45. Indirect.	Water assessed, 1944–45. Total of direct and indirect.	Gross and assessed revenue from all sources.	Working expenses, direct and indirect.	Area charged as irrigated during the year 1944–45, first and second crops.	Working expenses. Percentage on gross revenue.	Working expenses. Per acre irrigated.	Total water-rate, direct and indirect, per acre irrigated.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
		RS.	RS.	RS.	RS.	RS.	ACS.			
Productive.										
1 Cauvery delta system	..	52,85,993	1,62,127	54,47,060	54,87,435	12,92,427	1,059,587	23·55	1·22	5·14
2 Srivaikuntam anicut system	..	2,25,515	1,490	2,27,005	2,37,077	55,185	40,892	23·27	1·35	5·55
3 Godavari delta system	..	54,12,099	2,30,733	56,42,832	59,58,430	19,44,546	1,142,253	32·63	1·70	4·94
4 Mehamattur anicut system	..	27,221	196	27,417	28,623	9,149	5,726	31·96	1·59	4·75
5 Tadepalli channel	..	1,56,743	2,929	1,59,672	1,63,400	17,597	19,959	10·07	0·88	8·00
6 Kalingarayan channel	..	1,33,399	483	1,33,882	1,38,529	15,565	25,848	11·22	0·60	5·14
7 Vriddhachalam anicut system	..	46,091	339	46,430	47,136	13,489	10,576	28·61	1·28	4·39
8 Chembarambakkam tank	..	64,803	957	65,760	65,750	71,471	20,570	10·87	3·52	3·20
9 Marudur anicut system	..	2,08,505	279	2,08,784	2,11,771	26,337	27,985	12·43	0·94	7·75
10 Pennar river canals system	..	9,04,898	73,367	9,78,265	9,83,461	2,16,735	202,576	21·21	1·07	4·83
11 Arkankotta channel	..	41,108	428	41,536	42,483	4,940	5,358	11·62	0·92	7·75
12 Tirukkoyilur anicut system	..	1,39,729	3,369	1,43,098	1,45,204	98,188	35,796	67·62	2·74	3·80
13 Shatiatope anicut system	..	1,72,780	17,031	1,89,811	1,91,154	63,699	45,116	33·32	1·48	4·21
14 Cheyyar anicut system	..	1,14,188	4,735	1,18,923	1,19,729	1,17,868	36,250	98·44	3·25	3·28
15 Cumbum tank	..	43,380	472	43,852	43,852	3,079	10,200	7·00	0·30	4·30
16 Poiney anicut system	..	1,25,828	5,488	1,31,316	1,31,690	68,329	33,789	51·88	2·02	3·89
17 Periyar system	..	10,28,377	94,863	11,23,240	11,53,253	3,24,616	197,895	28·14	1·64	5·68
18 Kistna delta system	..	52,89,729	1,92,210	53,81,939	57,39,916	15,50,041	1,050,055	27·00	1·48	5·12
19 Nandiyar channel system	..	33,285	250	33,535	34,709	8,772	10,323	25·27	0·84	3·25
20 Lower Coleroon anicut system	..	6,04,827	51,549	6,56,376	6,70,099	2,26,522	126,598	32·80	2·11	5·18
21 Kistna East Bank canal extension scheme	..	6,08,304	87,205	6,95,509	7,07,206	1,16,274	100,831	16·15	1·01	6·90
22 Polavaram island project	..	1,07,026	..	1,07,026	1,08,425	58,499	21,668	53·95	2·70	4·94
23 Cauvery-Mettur project	..	17,17,596	23,999	17,41,595	19,46,079	6,19,486	245,476	31·25	2·52	7·09
24 Kattalai project	..	4,18,572	121	4,18,693	4,28,832	83,191	71,248	19·30	1·15	5·88

E-II.—Statement showing the incidence of Working Expenses and Assessed Water Revenue on Irrigation Works (classed as "Productive" and "Unproductive") for which Capital and Revenue Accounts are kept in the Madras Province during 1944–45—*cont.*

Name of canal.	Average discharge of the year at canal head in cubic feet per second.	Water assessed, 1944–45. Direct.	Indirect.	Total of direct and indirect.	Gross and assessed revenue from all sources.	Working expenses, direct and indirect.	Area charged as irrigated during the year 1944–45, first and second crops.	Working expenses. Percentage on gross revenue.	Per acre irrigated.	Total water-rate, direct and indirect, per acre irrigated.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Unproductive.		RS.	RS.	RS.	RS.	RS.	ACS.			
1 Kurnool-Cuddapah canal	..	4,04,625	3,277	4,07,902	4,16,031	1,31,567	92,991	31·62	1·41	4·39
2 Barur tank	..	25,221	787	26,008	28,948	7,987	5,852	27·59	1·37	4·44
3 Vallur anicut system	..	8,227	1,074	9,301	9,571	1,996	5,541	20·86	0·36	1·68
4 Madras water-supply and irrigation system	..	25,073	462	25,535	67,112	29,833	10,670	44·45	2·80	2·39
5 Pelandorai anicut system	..	64,802	86	64,888	68,106	24,199	15,590	35·53	1·55	4·16
6 Palar anicut system	..	3,80,494	16,852	3,97,346	4,06,615	6,44,514	122,117	109·17	5·27	3·25
7 Chicacole minor rivers system	..	1,87,064	7,874	1,94,938	1,95,000	69,251	90,273	35·51	0·77	2·16
8 Muniyeru system	..	43,676	62	43,738	45,527	24,800	9,116	54·47	2·72	4·80
9 Dondapad tank	..	2,717	10	2,727	2,727	1,493	717	54·75	2·08	3·80
10 Yerur tank	..	3,665	86	3,751	3,751	677	1,371	39·86	0·49	2·74
11 Sagileru system	..	16,897	26	16,923	16,986	5,272	3,723	31·04	1·42	4·55
12 Atmakur tank	..	2,032	..	2,032	2,032	818	492	40·21	1·66	4·13
13 Jangamaheswarapuram tank	..	1,332	..	1,332	1,332	1,164	314	87·39	3·71	4·24
14 Anamasamudram-Buraperu tank	..	4,130	1	4,131	4,131	21,541	1,015	424·76	21·22	4·07
15 Hajipuram tank	..	5,488	70	5,558	5,558	433	1,742	7·79	0·25	3·20
16 Ponnalur tank	..	7,307	..	7,307	7,307	731	1,391	10·00	5·26	5·25
17 Markapur tank	..	11,153	1	11,154	11,186	3,707	2,568	33·14	1·44	4·34
18 Nagavalli river system	..	1,24,790	21,804	1,56,594	1,47,132	35,036	29,635	23·81	1·18	5·28
19 Venkatapuram tank	..	3,541	..	3,541	3,541	1,064	504	30·05	2·11	7·03
20 Bhavanasi tank	..	5,798	..	5,798	5,988	5,052	606	84·37	8·34	9·57
21 Yellanur tank	..	1,992	1,104	3,096	3,096	2,031	554	65·60	3·65	5·67
22 Panjapatti reservoir	..	..	..	..	73	8,629	..	..	..	..
23 Siddhapur tank	..	7,288	..	7,288	7,292	1,558	1,015	21·37	1·54	7·18
24 Nagavaram anicut and supply channel	..	4,580	1,017	5,597	5,605	12,589	1,126	224·57	11·18	4·98
25 Mopad reservoir	..	45,993	5,170	51,163	51,362	9,611	6,540	18·71	1·47	7·82
26 Kanniyampalaiyam anicut	..	2,698	..	2,698	2,698	8,885	442	329·32	20·10	6·10
27 Toludur reservoir	..	1,63,094	448	1,63,542	1,65,818	44,727	26,394	27·02	1·67	6·20
28 Thippayapalem project	..	6,512	..	6,512	6,512	4,563	1,086	70·07	4·20	6·00
29 Basavannah channel	..	..	..	..	248	7,844	..	..	..	..
30 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

E-III.—Statement showing the area irrigated by flow and lift under productive and unproductive works and the value of crops raised thereon for Fasli 1354 (1944–45).

E-III—Statement showing the area irrigated by flow and lift under for fasli

Districts.	Names of systems.	Area actually irrigated. First crop. Flow.	First crop. Lift.	Second crop. Flow.	Second crop. Lift.	Total.	Both seasons.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		ACS.	ACS.	ACS.	ACS.	ACS.	ACS.
	1. *Productive Works.*						
East Godavari.	Polavaram island system ..	15,168	33	6,466	1	21,668	16
	Godavari delta system ..	378,388	7,703	117,268	4,739	508,098	7,602
West Godavari.	Do. ..	422,335	13,357	166,888	5,362	607,942	6,237
Kistna	Do. ..	1,116	..	173	..	1,289	..
	(Godavari delta) Total ..	801,839	21,060	284,329	10,101	1,117,329	13,839
West Godavari.	Kistna delta system ..	40,970	94	367	31	41,462	..
Kistna	Do. ..	481,147	11,047	3,992	176	496,362	10,183
Guntur	Do. ..	401,390	6,991	4,632	414	413,427	4,416
	(Kistna delta) Total ..	923,507	18,132	8,991	621	951,251	14,599
Kistna	Divi *cum* Kistna East Bank canal.	87,930	1,009	1	6	88,946	1,009
Nellore	Pennar river canals	159,338	2,829	32,657	709	195,533	2,941
Coimbatore ..	Arakkankottai channel ..	4,557	216	508	29	5,310	14
	Tadepalli channel	13,757	503	4,215	305	18,780	65
	Kalingarayan channel ..	9,724	2,715	11,102	2,201	25,742	1,855
Chingleput ..	Chembrambakkam tank ..	13,172	184	6,830	69	20,255	589
North Arcot ..	Poiney anicut system ..	19,143	955	9,286	129	29,513	168
Chittoor ..	Do. ..	1,447	16	689	6	2,158	10
	(Poiney anicut) Total ..	20,590	971	9,975	135	31,671	178
South Arcot ..	Tirukkoyilur anicut system	26,862	1,701	5,670	324	34,557	476
	Shatiatope anicut system ..	31,162	1,649	10,410	218	43,439	65
	Mehamattur anicut system.	4,740	254	623	1	5,618	624
	Vriddhachalam anicut system.	9,630	113	517	10	10,270	533
	Lower Coleroon anicut system.	83,530	1,382	9,733	219	94,864	1,154
Tanjore ..	Do.	22,822	583	3,613	185	27,203	205
	(Lower Coleroon) Total ..	106,352	1,965	13,346	404	122,067	1,359
Tanjore ..	Cauvery delta system ..	799,881	22,904	123,351	3,954	950,090	14,172
Trichinopoly ..	Do. ..	45,280	3,115	25,831	1,280	75,506	3,218
	(Cauvery delta) Total ..	845,161	26,019	149,182	5,234	1,025,596	17,390
Tanjore ..	Cauvery-Mettur Project ..	172,104	20,799	49,167	7,575	249,645	1,407
Trichinopoly ..	Nandiyar channel system ..	6,379	901	2,602	271	10,153	1,034
	Kattalai scheme ..	47,689	2,451	17,593	755	68,488	4,590
Madura ..	Periyar system	130,757	2,675	55,907	1,282	190,621	3,791
Ramnad ..	Do.	..	..	..	..	..	..
	(Periyar system) Total ..	130,757	2,675	55,907	1,282	190,621	3,791
Tinnevelly ..	Srivaikuntam anicut system.	22,607	2,422	13,927	279	39,235	690
	Marudur anicut system ..	16,724	259	10,108	84	27,175	495
Kurnool ..	Cumbum tank	5,491	88	4,503	45	10,127	345
North Arcot ..	Cheyyar anicut system ..	18,148	1,575	13,853	316	33,892	274
Chingleput ..	Do. ..	405	..	79	..	484	..
	(Cheyyar) Total ..	18,553	1,575	13,932	316	34,376	274
	Total, of Productive works ..	3,493,793	110,523	712,561	30,975	4,347,852	68,176

productive and unproductive works and the value of crops raised thereon 1354 (1944–45).

Value of crops.							
Paddy.		Ragi.		Other crops.		Total.	
Area irrigated.	Estimated value.	Area irrigated.	Estimated value.	Area irrigated.	Estimated value.	Area irrigated.	Estimated value.
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.
21,512	18,58,280	..	..	156	2,496	21,668	18,60,776
475,149	5,87,69,399	58	5,749	32,245	20,95,020	507,452	6,08,70,168
540,265	6,70,60,644	256	30,029	66,528	14,95,874	607,049	6,85,86,547
1,289	8,416	..	..	..	..	1,289	8,416
1,016,703	12,58,38,459	314	35,778	98,773	35,90,894	1,115,790	12,94,65,131
41,145	44,60,790	..	..	317	1,553	41,462	44,62,343
444,605	5,53,70,191	19,760	5,38,099	31,997	4,21,121	496,362	5,63,29,411
406,106	6,18,81,578	49	4,087	6,075	6,65,809	412,230	6,25,51,474
891,856	12,17,12,559	19,809	5,42,186	38,389	10,88,483	950,054	12,33,43,228
87,945	1,13,89,875	2	217	999	22,439	88,946	1,14,12,531
178,774	2,08,06,116	867	80,010	15,892	32,300	195,533	2,09,18,423
5,220	10,15,359	10	2,058	80	32,000	5,310	10,49,417
17,762	34,02,006	30	6,138	988	3,94,000	18,780	38,02,144
18,811	29,60,934	2,971	6,57,16,495	3,960	59,400	25,742	6,87,36,829
20,170	12,58,395	14	1,263	71	8,992	20,255	12,68,650
25,598	27,68,444	2,263	2,46,708	1,652	9,070	29,513	30,24,222
1,870	1,73,740	193	29,242	95	726	2,158	2,03,708
27,468	29,42,184	2,456	2,75,950	1,747	9,796	31,671	32,27,930
25,599	25,02,346	5,099	4,65,661	3,859	1,75,585	34,557	31,43,592
39,556	30,55,530	755	47,670	3,128	3,12,700	43,439	34,15,900
5,400	6,93,974	44	4,812	174	8,500	5,618	7,07,286
9,689	11,13,778	195	14,988	386	20,090	10,270	11,48,856
85,593	32,29,592	2,790	1,31,322	6,481	53,810	94,864	34,14,724
25,305	28,62,150	136	22,092	1,762	64,523	27,203	29,48,765
110,898	60,91,742	2,926	1,53,414	8,243	1,18,333	122,067	63,63,489
931,217	8,00,17,317	2,443	2,00,021	16,433	1,54,237	950,090	8,03,71,575
70,034	1,09,53,873	630	94,652	4,842	38,409	75,506	1,10,86,934
1,001,251	9,09,71,190	3,073	2,94,673	21,272	1,92,646	1,025,596	9,14,58,509
231,196	2,72,96,348	971	70,615	17,478	1,64,320	249,645	2,75,31,283
8,880	13,12,190	84	11,146	1,189	6,00,000	10,153	19,23,336
68,277	76,86,846	211	20,624	..	..	68,488	77,07,470
169,441	32,93,562	8,262	10,28,913	12,918	9,92,380	190,621	53,14,855
..	..	..	..	..	..	..	..
169,441	32,93,562	8,262	10,28,913	12,918	9,92,380	190,621	53,14,855
38,488	49,60,855	300	35,624	117	300	38,905	49,96,779
26,152	46,80,774	271	32,481	752	87,727	27,175	48,00,982
9,266	11,78,549	164	21,420	697	23,560	10,127	12,23,529
31,472	26,02,088	1,471	1,70,989	949	23,200	33,892	27,96,277
161	53,505	320	21,056	3	70	484	74,631
31,633	26,55,593	1,791	1,92,045	952	23,270	34,376	28,70,908
4,061,947	45,06,77,444	50,619	6,90,54,181	232,220	79,60,211	4,344,786	52,76,91,836

E-III.—Statement showing the area irrigated by flow and lift under for fasli 1354

Districts.	Names of systems.	Area actually irrigated.					
		First crop.		Second crop.		Total.	Both seasons.
		Flow.	Lift.	Flow.	Lift.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		ACS.	ACS.	ACS.	ACS.	ACS.	ACS.
	2. *Unproductive Works.*						
Vizagapatam ..	Chicacole minor river system.	74,872	2,587	6,998	1,971	86,428	79
	Nagavalli river project ..	26,018	284	900	109	27,311	42
Kistna	Muniyeru anicut system ..	7,299	92	82	2	7,475	..
Guntur	Jangamaheswarapuram tank.	220	..	48	..	268	..
	Atmakur tank	369	..	3	..	372	1
	Dondapad tank	513	..	199	..	712	..
	Bhavanasi tank	598	3	..	1	602	164
Nellore	Mopad reservoir	4,274	3	387	106	4,770	152
	Hajeepuram tank	860	..	849	..	1,709	..
	Ponnalur tank	754	..	612	..	1,366	15
	Annamasamudram-Biraperu tank.	931	7	8	..	946	..
	Yerur tank	899	28	..	..	927	..
Cuddapah ..	Sagileru system	3,523	79	9	..	3,611	10
	Chepad channel	9,870	1	1,118	..	10,989	61
	Nagavaram anicut and supply channel.	586	9	500	3	1,098	60
Kurnool ..	Markapur tank	1,422	..	1,098	32	2,552	..
	Siddapur tank	1,007	..	8	..	1,015	..
	Venkatapuram tank ..	303	..	194	..	497	..
	Tippayapalem project ..	794	8	284	..	1,086	..
	Kurnool-Cuddapah canal ..	35,489	363	7,884	24	43,760	621
Cuddapah ..	Do. ..	31,380	494	4,221	118	36,213	1,436
	(Kurnool-Cuddapah canal) Total ..	66,869	857	12,105	142	79,973	2,057
Anantapur ..	Yellanur tank	494	..	3	..	497	2
Salem	Barur tank	3,870	207	1,389	6	5,472	579
Coimbatore ..	Kanniyampalaiyam anicut ..	308	..	134	..	442	..
Chingleput ..	Madras water-supply and irrigation system.	6,127	238	2,545	110	9,020	58
	Vallur anicut system ..	3,396	933	241	44	4,614	4
	Palar anicut system	18,777	1,047	11,008	206	31,038	1
North Arcot ..	Do.	50,715	2,687	28,617	1,559	83,578	666
	(Palar anicut system) Total ..	69,492	3,734	39,625	1,765	114,616	68
South Arcot ..	Pelandorai anicut system ..	12,169	1,167	1,409	43	14,788	13
	Willingdon reservoir ..	20,521	331	5,385	22	26,259	1,73
	Total, of Unproductive works.	318,358	10,568	76,133	4,356	409,415	5,87
	Total, of Productive works.	3,493,793	110,523	712,561	30,975	4,347,852	68,17
	Grand total ..	3,812,151	121,091	788,694	35,331	4,757,267	74,04

NOTE.—(1) The area " under both seasons " is included under the first and second crops.
(2) The area in columns (3) to (6) include extent under " withered crops " but exclude " waste charged.
(3) The area of " withered crops " is 3,977 acres.

productive and unproductive works and the value of crops raised thereon (1944-45)—*cont.*

Value of crops.							
Paddy.		Ragi.		Other crops.		Total.	
Area irrigated.	Estimated. value.	Area irrigated.	Estimated value.	Area irrigated.	Estimated value.	Area irrigated.	Estimated value.
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.
76,265	91,65,850	8,954	9,26,621	348	2,002	85,567	1,00,94,473
25,864	18,62,833	244	16,422	1,202	4,96,692	27,310	23.75,947
6,260	14.01,158	15	1,523	1,200	8,610	7,475	14,11,291
265	30,259	..	..	3	20	268	30,279
365	36,743	..	..	7	39	372	36,782
595	72,859	87	9,444	30	300	712	82,603
598	78,448	2	483	2	150	602	79,081
4,330	5,80,923	10	949	430	17,200	4,770	5,99,072
945	74,523	75	10,635	688	10,240	1,708	95,398
938	1,74,447	2	136	426	1,00,000	1,366	2,74,583
902	1,06,054	16	1,152	28	280	946	1,07,486
874	96,183	14	1,018	8	25	896	97,226
3,305	4,65,672	240	25,935	66	3,300	3,611	4,94,907
9,398	11,78,480	631	60,356	959	33,800	10,988	12,72,636
967	1,11,670	33	5,405	99	133	1,099	1,17,208
2,406	3,20,331	126	11,743	19	399	2,551	3,32,473
502	4,19,055	13	1,014	500	2,750	1,015	4,22,819
494	38,247	1	115	2	2	497	38,364
659	80,195	377	39,613	50	1,200	1,086	1,21,008
24,845	37,19,988	104	11,199	18,794	2,01,358	43,743	39,32,545
27,860	39,52,236	1,760	2,56,633	6,593	12,54,350	36,213	54,63,219
52,705	76,72,224	1,864	2,67,832	25,387	14,55,708	79,956	93,95,764
380	30,270	7	1,122	110	16,200	497	47,592
4,511	8,10,117	96	15,286	864	9,000	5,471	8,34,403
262	52,648	2	513	178	1,01,000	442	1,54,161
8,719	8,07,776	301	18,345	..	..	9,020	8,26,121
3,691	2,56,375	923	68,924	..	..	4,614	3,25,299
29,950	3,13,394	512	35,034	576	25,341	31,038	3,73,769
77,314	80,08,482	4,425	53,785	1,841	9,972	83,580	89,72,239
107,264	92,21,876	4,937	88,819	2,417	35,313	114,618	93,46,008
13,567	1,43,550	59	4,266	1,162	88,080	14,788	2,35,896
23,734	30,53,142	365	33,906	2,160	1,39,200	26,259	32,26,248
350,765	3,83,41,908	19,394	16,11,577	38,345	25,21,643	408,504	4,24,75,128
4,061,947	45,06,77,444	50,619	6,90,54,181	2,32,220	79,60,211	4,344,786	52,76,91,836
4,412,712	48,90,19,352	70,013	7,06,65,758	270,565	1,04,81,854	4,753,290	57,01,66,964

E-IV.—Comparative statement of irrigation and rainfall in the

Civil districts.	Of the civil districts. Total area in acres.	Cultivable area in acres.	Cultivated area in acres.	Works supplying irrigation—Number and name.	Cultivable area commanded by the irrigation works in column (5).
(1)	(2)	(3)	(4)	(5)	(6)
					ACS.
Vizagapatam	..	..	..	1 Chicacole minor river system	70,000
				2 Nagavalli river system	31,200
				3 Minor works	121,767
				Total	222,967
East Godavari	..	..	..	1 Godavari delta system	396,253
				2 Polavaram island system	18,648
				3 Minor works	94,862
				Total	509,763
West Godavari	..	..	..	1 Godavari delta system	565,000
				2 Kistna delta system	..
				3 Minor works	43,129
				Total	608,129
Kistna	..	..	..	1 Kistna delta system	543,000
				2 Godavari delta system	..
				3 Divi system	80,000
				4 Muniveru anicut system	13,024
				5 Minor works	20,903
				Total	656,927
Guntur	..	..	..	1 Kistna delta system	357,000
				2 Bhavanasi tank	2,448
				3 Dondapad tank	2,880
				4 Atmakur tank	1,160
				5 Jangamaheswarapuram tank	960
				6 Minor works	26,534
				Total	390,982
Kurnool	..	..	..	1 Kurnool-Cuddapah canal	319,869
				2 Venkatapuram tank	1,700
				3 Cumbum tank	6,000
				4 Markapur tank	1,701
				5 Siddhapur tank	4,250
				6 Thippayapalem project	..
				7 Minor works	47,146
				Total	380,666
Bellary	..	..	..	Minor works	55,406
Anantapur	..	..	..	1 Yellanur tank	1,641
				2 Minor works	153,233
				Total	154,874
Cuddapah	..	..	..	1 Kurnool-Cuddapah canal including	37,700
				Chepad channel.	..
				2 Sangileru system	26,576
				3 Nagavaram anicut and supply channel.	894
				4 Minor works	102,629
				Total	167,799
Nellore	..	..	..	1 Pennar river canal system	190,000
				2 Mopad reservoir	13,890
				3 Ponnalur tank	1,973
				4 Anamasamudram-Biraperu tank	1,000
				5 Yerur tank	3,176
				6 Hajipuram tank	2,900
				7 Minor works	136,956
				Total	349,895
Chingleput	..	..	..	1 Palar anicut system	24,102
				2 Chembarambakkam tank	24,478
				3 Vallur anicut system	6,794
				4 Cheyyar anicut system	540
				5 Madras water-supply and irrigation system.	10,165
				6 Minor works	358,578
				Total	424,657

Madras Presidency for the revenue year ending with 30th June 1945.

Area at present estimated as annually irrigable by the works specified in column (5).	Area irrigated in acres. Revenue year ending with June 1944. Kharif I crop.	Rabi II crop.	Total.	Revenue year ending with June 1945. Kharif I crop.	Rabi II crop.	Total.	Rainfall. 1943-44.	1944-45.
(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
ACS.	ACS.	ACS.	ACS.	ACS.	ACS.	ACS.	INCHES.	INCHES
66,800	70,702	5,918	76,620	77,459	8,969	86,428		
27,500	27,923	612	28,535	26,302	1,008	27,310		
121,767	122,825	14,646	137,471	121,674	16,113	137,787		
216,067	221,450	21,176	242,626	225,435	26,090	251,525	46·2	34·8
377,000	372,210	98,443	470,653	386,090	122,008	508,098		
17,500	15,261	7,212	22,473	15,201	6,467	21,668		
94,862	101,950	14,084	116,034	80,766	17,225	97,991		
489,362	489,421	119,739	609,160	482,057	145,700	627,757	43·6	49·5
414,500	446,472	159,472	605,944	435,692	172,250	607,942		
..	42,580	393	42,973	41,064	398	41,462		
43,129	40,577	833	41,410	43,783	1,377	45,160		
457,629	529,629	160,698	690,327	520,539	174,025	694,564	46·9	44·6
445,300	485,186	5,764	490,950	492,194	4,169	496,363		
..	862	179	1,041	1,116	173	1,289		
42,000	86,680	1,043	87,723	88,939	8	88,947		
10,000	9,036	498	9,534	7,391	84	7,475		
20,903	20,380	115	20,495	20,799	38	20,837		
518,203	602,144	7,599	609,743	610,439	4,472	614,911	39·0	38·8
330,000	402,079	5,653	407,732	408,381	5,046	413,427		
841	621	129	750	601	1	602		
250	317	5	322	513	199	712		
460	435	48	483	369	3	372		
290	206	71	277	220	48	268		
26,534	24,552	2,328	26,880	26,233	2,740	28,973		
358,375	428,210	8,234	436,444	436,[illegible]17	8,037	444, 54	39·1	36·0
103,743	43,567	8,758	52,325	35,852	7,908	43,760		
340	275	..	275	303	194	497		
5,980	5,646	4,954	10,600	5,579	4,548	10,127		
1,583	1,374	242	1,616	1,422	1,129	2,551		
3,730	542	75	617	1,007	8	1,015		
..	759	97	856	802	284	1,086		
47,146	42,973	7,887	50,860	44,907	9,087	53,994		
162,522	95,136	22,013	117,149	89,872	23,158	113,030	31·9	25·7
55,406	48,110	12,439	60,549	47,813	12,040	59,853	28·2	27·5
925	484	..	484	494	3	497		
153,233	119,030	33,669	152,699	121,962	44,116	166,078		
154,158	119,514	33,669	153,183	122,456	44,119	166,575	22·7	22·0
19,676	32,982	7,806	40,788	31,874	4,339	36,213		
..	10,269	1,747	12,016	9,870	1,118	10,988		
4,500	3,965	2,423	6,388	3,602	10	3,612		
894	587	311	898	595	504	1,099		
102,629	99,584	47,298	146,882	102,017	35,293	137,310		
127,699	147,387	59,585	206,972	147,958	41,264	189,222	43·0	31·6
162,500	146,654	41,163	187,817	162,167	33,666	195,533		
12,500	2,268	1,022	3,290	4,277	493	4,770		
1,000	870	351	1,221	754	612	1,366		
1,000	938	52	990	938	8	946		
1,470	945	49	994	927	..	927		
700	855	836	1,691	860	849	1,709		
136,956	133,532	33,028	166,560	130,754	27,025	157,779		
316,126	286,062	76,501	362,563	300,677	62,653	363,030	58·3	44·7
24,102	20,079	7,753	27,832	19,824	11,214	31,038		
18,000	12,369	4,362	16,7[illegible]1	13,356	6,899	20,255		
5,216	4,482	549	5,031	4,330	284	4,614		
494	423	281	704	403	79	482		
9,852	6,909	2,614	9,523	6,365	2,655	9,020		
358,578	331,267	154,797	486,064	329,753	136,044	465,797		
416,242	375,529	170,356	545,885	374,031	157,175	531,206	72·3	56·9

E-IV.—Comparative statement of irrigation and rainfall in the

Civil districts.	Of the civil districts. Total area in acres.	Cultivable area. in acres.	Cultivated area. in acres	Works supplying irrigation—Number and name.	Cultivable area commanded by the irrigation works in column (5)
(1)	(2)	(3)	(4)	(5)	(6)
					ACS.
South Arcot ..	..	..	..	1 Lower Coleroon anicut system ..	86,000
				2 Shatiatope anicut system	43,965
				3 Vriddhachalam anicut system ..	16,359
				4 Mehamattur anicut system	10,651
				5 Tirukkoyilur anicut system	45,977
				6 Pelandurai anicut system	16,677
				7 Willingdon reservoir	28,800
				8 Minor works	300,198
				Total ..	548,627
North Arcot ..	..	..	..	1 Palar anicut system	80,930
				2 Cheyyar anicut system	28,921
				3 Poiney anicut system	23,824
				4 Minor works	231,647
				Total ..	365,322
Chittoor	..	..	..	1 Poiney anicut system	..
				2 Minor works	113,903
				Total ..	113,903
Salem	..	..	..	1 Barur tank	6,887
				2 Minor works	105,998
				Total ..	112,885
Coimbatore ..	..	..	..	1 Tadepalli channel	16,000
				2 Arakkankottai channel	6,000
				3 Kalingarayan channel	15,000
				4 Kanniyampalaiyam anicut	1,600
				5 Minor works	72,862
				Total ..	111,462
Trichinopoly ..	..	..	..	1 Cauvery delta system	44,667
				2 Nandiyar channel system	9,480
				3 Kattalai scheme	40,000
				4 Minor works	120,308
				Total ..	214,455
Tanjore	..	..	..	1 Cauvery delta system	864,367
				2 Lower Coleroon anicut system ..	31,233
				3 Cauvery-Mettur project	528,487
				4 Minor works	65,961
				Total ..	1,490,048
Madura	..	..	..	1 Periyar system	..
				2 Minor works	131,046
				Total ..	131,046
Ramnad	..	..	..	1 Periyar system	..
				2 Minor works	38,362
				Total ..	38,362
Tinnevelly ..	..	..	..	1 Srivaikuntam anicut system	33,500
				2 Marudur anicut system	17,920
				3 Minor works	187,167
				Total ..	238,587
				Total of productive and unproductive works.	4,758,167
				Total of minor works ..	2,528,595
				Grand total ..	7,286,762

Madras Presidency for the revenue year ending with 30th June 1945—*cont.*

Area at present estimated as annually irrigable by the works specified in column (5).	Area irrigated in acres.						Rainfall.	
	Revenue year ending with June 1944.			Revenue year ending with June 1945.			1943-44.	1944-45.
	Kharif I crop.	Rabi II crop.	Total.	Kharif I crop.	Rabi II crop.	Total.		
(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
ACS.	ACS.	ACS.	ACS.	ACS.	ACS.	ACS.	INCHES.	INCHES.
84,244	95,143	8,847	103,990	84,913	9.951	94,864		
32,000	32,803	7,536	40,339	32,811	10,628	43,439		
8,829	10,131	417	10,548	9,743	527	10,270		
5,000	4,882	758	5,640	4,994	624	5,618		
28,000	28,643	8,022	36,665	28,563	5,994	34,557		
12,837	12,391	1,044	13,435	13,336	1,452	14,788		
25,000	20,869	7,906	28,775	20,852	5,407	26,259		
300,198	290,935	106,935	397,870	291,384	89,394	380,778		
496,108	495,797	141,465	637,262	486,596	123,977	610,573	72·5	48·0
54,566	51,967	36,419	88,386	53,402	30,176	83,578		
22,193	19,365	16,996	36,361	19,723	14,169	33,892		
22,462	20,526	12,898	33.424	20,098	9,415	29,513		
231,647	210,863	132,493	343,. 56	204,220	93,571	297,791		
330,868	302,721	198,806	501,527	297,443	147,331	444,774	53·9	40·6
..	1,468	881	2,349	1,463	695	2,158		
113,903	106,406	65,351	171,757	101,579	50,320	151,899		
113,903	107,874	66,232	174,106	103,042	51,015	154,057	54·8	43·0
3,750	4,159	1,557	5,716	4,077	1,395	5,472		
105,998	98,005	42,168	140,173	102,285	41,200	143,485		
109,748	102,164	43,725	145,889	106,362	42,595	148,957	41·5	37·9
15,400	15,283	3,943	19,226	14,260	4,520	18,780		
4,845	4,782	624	5,406	4,773	537	5,310		
12,239	12,381	10,872	23,253	12,439	13,303	25,742		
213	269	..	269	308	134	442		
72,862	67,556	27,684	95,240	72,467	28,091	100,558		
105,559	100,271	43,123	143,394	104,247	46,585	150,832	28·6	38·2
44,008	48,286	27,926	76,212	48,395	27,111	75,506		
7,084	6,802	2,643	9,445	7,280	2,873	10,153		
36,623	50,431	18,646	69,077	50,140	18,348	68,488		
120,308	115,819	58,359	174,178	124,799	61,770	186,569		
208,023	221,338	107,574	328,912	230,614	110,102	340,716	40·4	40·1
856,918	822,167	119,836	942,003	822,785	127,305	950,090		
23,685	23,653	3,726	27,379	23,404	3,799	27,203		
177,000	177,611	51,967	229,578	192,903	56,743	249,646		
65,961	41,772	2,942	44,714	43,533	3,513	47,046		
1,123,564	1,065,203	178,471	1,243,674	1,082,625	191,360	1,273,985	54·1	55·3
143,000	126,064	57,206	183,270	133,432	57,189	190,621		
131,046	118,427	40,140	158,567	127,149	48,298	175,447		
274,046	244,491	97,346	341,837	260,581	105,487	366,068	33·5	43·7
38,362	32,967	12,723	45,690	34,921	19,075	53,996		
38,362	32,967	12,723	45,690	34,921	19,075	53,996	32·0	36·7
25,685	24,795	18,196	42,901	25,029	14,206	39,235		
17,920	17,029	15,272	32,301	16,983	10,192	27,175		
187,167	184,184	107,206	291,390	187,990	92,269	280,259		
230,772	226,008	140,674	366,682	230,002	116,667	346,669	31·8	33·2
3,774,147	3,889,716	805,019	4,694,735	3,933,239	824,328	4,757,267		
2,528,595	2,351,714	917,125	3,268,839	2,360,788	828,599	3,189,387		
6,302,742	6,241,430	1,722,144	7,963,574	6,294,027	1,652,927	7,946,654	48·6	39·1

F-I.—Statement showing the water-rates per acre which were in force under certain Productive and Unproductive Works in the Madras Presidency during the year ending 30th June 1945.

Description of crop.	Godavari and Kistna anicuts.	Muniyeru project.	Periyar system.*	Bhavanasi tank.	Venkatapuram tank.	Mopad reservoir.	Willingdon reservoir.	Panjapatti reservoir.†	Siddapur tank.	Other systems (in tract where the differential water-rate system does not prevail). ‡
	RS. A.	RS. A.	RS. A.	RS. A.	RS. A.	RS. A.	RS. A.	RS. A.	RS. A.	
1 Single wet crop	6 4	6 4	5 0	9 6	4 3	7 13	6 4	6 4	6 0	..
2 Second wet crop	3 2	3 2	3 0	4 11	2 1	3 15	3 2	3 2	3 0	..
3 Second wet crop (if compounded for two crops for a term of not less than five years).	10 3	..	..	..	..	..	..	..	..	..
4 Second dry crop on irrigated land except where the landholder has compounded under clause 3.	3 2	3 2	..	..	..	..	..	..	..	..
5 For sugarcane, betel and other garden produce remaining on the ground for the time of two crops.	9 6	9 6	8 0	14 1	6 4	11 12	9 6	..	9 0	..
6 For sugarcane, betel and other garden produce remaining on the ground for the time of two crops, if compounded for a term of not less than five years.	10 3	..	..	..	..	..	..	..	..	..
7 For a dry crop, whether first or second, grown on land for which irrigation has never been supplied or having been once supplied has been since discontinued.	3 2	..	..	4 11	2 1	3 15	..	..	..	..
8 For a third irrigated crop (wet)	2 8	3 2	2 0	..	..	..	..	..	..	..
9 Do. (dry)	1 4	3 2	1 0	..	..	..	..	..	..	..
10 Dry crop systematically irrigated	6 4	4 11	..	..	..	..	..	..	..	..
11 Second wet crop in the case of zamindari and inam lands ..	6 4	3 2	..	..	..	..	..	..	..	..
12 Second wet crop in the case of zamindari and inam lands where the cultivator has compounded for two crops for a term of not less than five years.	10 3	..	..	..	..	..	..	..	..	..
13 For sugarcane, betel and other garden produce in zamindari and inam lands remaining on the ground for the time of two crops.	12 8	9 6	..	..	..	..	..	..	..	..
14 For sugarcane, betel and other garden produce in zamindari and inam lands remaining on the ground for the time of two crops, if the cultivator has compounded for a term of not less than five years.	10 3	..	..	..	..	..	..	..	..	..
15 For a first dry crop systematically irrigated	..	..	5 0	..	..	..	..	..	..	..
16 For a second dry crop systematically irrigated	..	..	3 0	..	..	..	..	..	..	..
17 For a first or second dry crop occasionally irrigated	..	..	2 8	..	..	..	..	..	..	..

18 *Special crops like onions, sweet potatoes, chillies, tobacco (the same as for a dry crop systematically irrigated).*	..	..	5 0	..	..	..	..	..	..	..
19 Mango topes, coconut topes and other tope plantations—										
(*a*) If they take water for term of two wet crops	..	..	8 0	..	..	..	..	..	..	..
(*b*) In other cases	..	..	5 0	..	..	..	..	..	..	..

NOTE.—When the water used for irrigation cannot be obtained without raising it by baling or by some mechanical contrivance a deduction of one-fourth of the water-rate will be made.

* Double the rates are levied when Periyar water is supplied to Government and minor inam dry lands to the Cumbum Valley, Periyakulam taluk, to which extension of irrigation has been sanctioned.

† Standard scale of water-cess has been ordered to be adopted until further orders—*Vide* G.O. Ms. No. 1277, Revenue, dated 29th June 1934.

‡ First crop on dry land.	Second crop on dry land.	Charge for First crop.	Charge for Second crop.	Total charge.
		RS.	RS. A.	RS. A.
1 Wet	Wet	4	2 0	6 0
2 Do.	Dry, systematically irrigated	4	1 8	5 8
3 Do.	Dry, occasionally irrigated	4	1 0	5 0
4 Dry, systematically irrigated	Wet	3	2 8	5 8
5 Do.	Dry, systematically irrigated	3	2 0	5 0
6 Do.	Dry, occasionally irrigated	3	1 8	4 8
7 Dry, occasionally irrigated	Wet	2	3 0	5 0
8 Do.	Dry, systematically irrigated	2	2 8	4 8
9 Do.	Dry, occasionally irrigated	2	2 0	4 0

N.B.—The rates fixed in the Tanjore District Cauvery Water-cess Rules are not incorporated in this statement.

APPENDIX II.

I

Statement showing the Financial Results of Irrigation under Productive and Unproductive Systems for fasli 1354 (1944–45).

Systems.	Area charged as irrigated and area irrigated free of charge. — First crop.			Second crop.			Direct receipts.	
	Old irrigation.	New irrigation.	Total.	Old irrigation.	New irrigation.	Total.	Total land and irrigation revenue.	Share due to irrigation.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. Productive Works.	ACS.	ACS.	ACS.	ACS.	ACS.	ACS.	RS.	RS.
1 Godavari Delta system	156,150	683,596	839,746	..	302,507	302,507	69,38,103	55,55,268
2 Kistna Delta system	70,710	896,935	967,645	..	82,410	82,410	63,69,601	54,27,779
3 Divi *cum* Kistna East Bank canal	9,900	86,068	95,968	..	4,863	4,863	6,27,851	6,24,132
4 Pennar river canals system	99,080	70,287	169,367	1,050	32,159	32,209	10,64,807	9,10,965
5 Arakkankottai channel	2,730	2,091	4,821	10	527	537	47,503	41,119
6 Tadepalle channel	9,990	5,450	15,440	170	4,349	4,519	1,78,238	1,56,763
7 Kalingarayan channel	8,300	4,245	12,545	8,350	4,953	13,303	1,51,301	1,33,718
8 Chembrambakkam tank	11,370	3,069	14,439	1,160	4,971	6,131	87,458	64,874
9 Poiney anicut system	15,550	8,127	23,677	2,500	7,610	10,110	1,62,518	1,26,635
10 Cheyyar anicut system	14,960	7,042	22,002	1,630	12,618	14,248	1,58,664	1,14,549
11 Tirukkoyilur anicut system	16,080	14,064	30,144	30	5,652	5,682	1,88,003	1,40,899
12 Shatiyatope anicut system	7,160	27,328	34,488	..	10,628	10,628	2,29,989	1,73,591
13 Mehamathur anicut system	990	4,112	5,102	..	624	624	37,736	27,238
14 Vriddhachalam anicut system	2,430	7,619	10,049	..	527	527	66,049	46,117
15 Lower Coleroon anicut system	44,760	68,043	112,803	170	13,625	13,795	8,82,289	6,05,140
16 Cauvery Delta system	743,647	161,661	905,308	33,919	120,360	154,279	68,38,579	53,08,874
17 Nandiyar channel system	4,680	2,770	7,450	1,570	1,303	2,873	44,417	33,743
18 Periyar system	65,600	74,463	140,063	16,100	41,732	57,832	11,33,813	10,30,178
19 Srivaikuntam anicut system	14,580	11,709	26,289	5,850	8,753	14,603	2,69,340	2,27,289
20 Marudur anicut system	17,020	629	17,649	590	9,746	10,336	2,42,241	2,08,980
21 Cumbum tank	4,850	800	5,650	2,670	1,880	4,550	47,378	43,390
22 Kattalai scheme	27,860	25,699	53,559	8,250	9,439	17,689	5,00,339	4,20,007
23 Polavaram Island system	..	15,201	15,201	..	6,467	6,467	1,07,026	1,07,026
24 Cauvery-Mettur Project	69,257	120,392	189,649	1,730	54,097	55,827	17,66,423	17,22,525
Total, Productive Works ..	1,417,654	2,301,400	3,719,054	85,749	741,800	827,549	2,81,39,666	2,32,50,799

II. Unproductive Works.

25 Chicacole minor rivers system	51,260	30,077	81,337	..	8,636	8,936	2,78,836	1,89,311
26 Willingdon reservoir	2,500	18,487	20,987	260	5,147	5,407	1,66,960	1,63,094
27 Nagavalli river system	10,600	17,989	28,589	5,200	−4,154	1,046	1,56,322	1,26,257
28 Muniyeru anicut system	600	8,432	9,032	..	84	84	63,950	50,704
29 Jangamaheswarapuram tank	150	116	266	7	41	48	1,817	1,332
30 Atmakur tank	..	489	489	..	3	3	2,481	2,032
31 Dondapad tank	..	518	518	..	199	199	2,942	2,717
32 Bhavanasi tank	..	605	665	..	1	1	5,798	5,790
33 Mopad reservoir	..	5,895	5,895	..	645	645	46,166	45,993
34 Hajipuram tank	..	893	893	..	849	849	6,090	5,448
35 Ponnalur tank	..	779	779	..	612	612	8,498	7,307
36 Anamasamudram-Biraperu tank	900	107	1,007	80	−72	8	4,640	4,130
37 Yerur tank	80	1,291	1,371	..	..	..	4,808	3,665
38 Sagileru system	3,600	113	3,713	700	−690	10	19,307	16,900
39 Markapur tank	450	989	1,439	50	1,079	1,129	11,800	11,153
40 Yellanur tank	..	551	551	..	3	3	2,888	2,466
41 Siddhapur tank	..	1,007	1,007	..	8	8	7,288	7,228
42 Nagavaram anicut and supply channel	452	170	622	235	269	504	5,299	4,582
43 Venkatapuram tank	..	310	310	..	194	194	3,588	3,541
44 Kurnool-Cuddapah canal	6,643	62,444	69,087	..	12,358	12,358	3,85,767	3,50,735
45 Chepad channel	1,406	9,013	10,419	56	1,071	1,127	60,830	54,095
46 Barur tank	1,760	2,697	4,457	540	855	1,395	30,531	25,285
47 Kanniyampalaiyam anicut	..	308	308	..	134	134	2,698	2,698
48 Madras water-supply and irrigation system	5,630	2,323	7,953	780	1,937	2,717	33,679	25,338
49 Vallur anicut system	4,030	1,030	5,060	10	471	481	13,339	9,314
50 Palar anicut system	53,890	25,691	79,581	16,070	26,466	42,536	4,99,981	3,86,060
51 Pelandorai anicut system	2,120	12,194	14,314	100	1,176	1,276	87,192	64,822
52 Panjapatti reservoir	..	..	..	..	..	..	..	..
53 Thippayapalem project	..	802	802	..	284	284	6,512	6,512
Total, Unproductive Works	146,071	205,320	351,391	24,088	57,906	81,994	19,19,507	15,78,626
Grand total, Productive and Unproductive Works	1,563,725	2,506,720	4,070,445	109,837	799,581	909,543	3,00,59,173	2,48,29,425

NOTE.—The revenue due to old irrigation and new irrigation under the Cauvery Delta System fixed by the Accountant-General with reference to G.O. No. 763 (I), dated 25th March 1936, is shown below :—

	Direct receipts.	Indirect receipts.	Total revenue.
	RS.	RS.	RS.
Old irrigation	37,02,391	1,13,597	38,15,988
New irrigation	15,34,899	47,094	15,81,993

Statement showing the Financial Results of Irrigation under Productive and Unproductive Systems for fasli 1354 (1944–45)—*cont.*

Systems.	Direct receipts—*cont.*				Indirect receipts.				
	Deduct remissions and deductions.	Net revenue due to irrigation.	Deduct portion due to old irrigation.	Increase of revenue due to the outlay incurred.	Land assessment of waste lands brought under irrigation.	Land revenue of miscellaneous items.	Interest on sale-proceeds of tank beds and other waste lands.	Total.	Total of columns (13) and (17).
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Productive Works.	..	..						..	
1 Godavari Delta system	1,43,169	54,12,099	1,24,000	52,88,099	1,84,227	8,161	38,345	2,30,733	55,18,832
2 Kistna Delta system	1,38,050	52,89,729	71,000	52,18,729	1,01,734	16,703	73,773	1,92,210	54,10,939
3 Divi *cum* Kistna East Bank canal	15,828	6,08,304	20,300	5,88,004	13,253	4,086	69,866	87,205	6,75,209
4 Pennar river canals system	6,067	9,04,898	2,56,000	6,48,898	46,299	3,711	23,357	73,367	7,22,265
5 Arakkankottai channel	11	41,108	19,000	22,108	372	56	..	428	22,536
6 Tadepalle channel	20	1,56,743	76,000	80,743	2,890	39	..	2,929	83,672
7 Kalingarayan channel	319	1,33,399	85,000	48,399	419	64	..	483	48,882
8 Chembrambakkam tank	71	64,803	16,000	48,803	898	59	..	957	49,760
9 Poiney anicut system	807	1,25,828	38,100	87,728	5,299	131	58	5,488	93,216
10 Cheyyar anicut system	361	1,14,188	39,000	75,188	3,196	104	1,435	4,735	79,923
11 Tirukkoyilur anicut system	1,170	1,39,729	60,000	79,729	3,293	76	..	3,369	83,098
12 Shatiyatope anicut system	811	1,72,780	20,000	1,52,780	16,713	318	..	17,031	1,69,811
13 Mehamathur anicut system	17	27,221	4,000	23,221	94	23	79	196	23,417
14 Vriddhachalam anicut system	26	46,091	8,500	37,591	302	17	20	339	37,930
15 Lower Coleroon anicut system	313	6,04,827	1,55,000	4,49,827	51,201	318	30	51,549	5,01,376
16 Cauvery Delta system	22,941	52,85,933	33,90,209	18,95,724	1,19,724	10,571	31,832	1,62,127	20,57,851
17 Nandiyar channel system	458	33,285	17,000	16,285	60	18	172	250	16,535
18 Periyar system	1,801	10,28,377	2,04,000	8,24,377	15,400	4,940	74,523	94,863	9,19,240
19 Srivaikuntam anicut system	1,774	2,25,515	79,000	1,46,515	1,423	67	..	1,490	1,48,005
20 Marudur anicut system	475	2,08,505	1,15,000	93,505	237	42	..	279	93,784
21 Cumbum tank	10	43,380	30,000	13,380	446	18	8	472	13,852
22 Kattalai scheme	1,435	4,18,572	2,54,000	1,64,572	21	..	100	121	1,64,693
23 Polavaram Island system	..	1,07,026	..	1,07,026	..	..	..	..	1,07,026
24 Cauvery-Mettur Project	4,929	17,17,596	99,971	16,17,625	3,147	..	20,852	23,999	16,41,624
Total, Productive Works	**3,40,863**	**2,29,09,936**	**51,81,080**	**1,77,28,856**	**5,70,648**	**49,522**	**3,34,450**	**9,54,620**	**1,86,83,476**

II. Unproductive Works.

25 Chicacole minor rivers system	2,247	1,87,064	95,000	92,064	7,065	738	71	7,874	99,938
26 Willingdon reservoir	..	1,63,094	10,590	1,52,504	448	..	..	448	1,52,952
27 Nagavalli river system	1,467	1,24,790	37,400	87,390	4,661	1,092	16,051	21,804	1,09,194
28 Muniyeru anicut system	7,028	43,676	2,500	41,176	4	58	..	62	41,238
29 Jangamaheswarapuram tank	..	1,322	500	832	..	..	..	..	832
30 Atmakur tank	..	2,032	..	2,032	..	..	..	..	2,032
31 Dondapad tank	..	2,717	..	2,717	8	2	..	10	2,727
32 Bhavanasi tank	..	5,798	..	5,798	..	..	..	..	5,798
33 Mopad reservoir	..	45,993	433	45,560	659	..	4,511	5,170	50,730
34 Hajipuram tank	..	5,458	..	5,488	38	15	17	70	5,558
35 Ponnalur tank	..	7,307	..	7,307	..	..	..	..	7,307
36 Anamasamudram-Biraperu tank	..	4,130	3,600	530	..	1	..	1	531
37 Yerur tank	..	3,665	425	3,240	22	64	..	86	3,326
38 Sagileru system	3	16,897	17,800	— 903	22	4	..	26	— 877
39 Markapur tank	..	11,153	2,130	9,023	..	1	..	1	9,024
40 Yellanur tank	473	1,992	..	1,992	613	..	491	1,104	3,096
41 Siddhapur tank	..	7,288	..	7,288	..	..	..	..	7,288
42 Nagavaram anicut and supply channel	2	4,580	2,256	2,324	146	..	871	1,017	3,341
43 Venkatapuram tank	..	3,541	..	3,541	..	..	..	..	3,541
44 Kurnool-Cuddapah canal	104	3,50,631	28,285	3,22,346	1,238	926	559	2,723	3,25,069
45 Chepad channel	101	53,994	7,587	46,407	505	26	23	554	46,961
46 Barur tank	64	25,221	5,900	19,321	186	..	601	787	20,108
47 Kanniyampalaiyam anicut	..	2,698	..	2,698	..	..	..	..	2,698
48 Madras water-supply and irrigation system	265	25,073	11,000	14,073	441	21	..	462	14,535
49 Vallur anicut system	1,087	8,227	5,000	3,227	1,067	7	..	1,074	4,301
50 Palar anicut system	5,575	3,80,494	1,25,000	2,55,494	15,520	320	1,012	16,852	2,72,346
51 Pelandorai anicut system	20	64,802	3,000	61,802	57	21	8	86	61,888
52 Panjapatti reservoir	..	..	..	..	..	..	..	..	..
53 Thippayapalem project	..	6,512	..	6,512	..	..	..	..	6,512
Total, Unproductive Works	18,437	15,60,189	3,58,406	12,01,783	32,700	3,296	24,215	60,211	12,61,994
Grand total, Productive and Unproductive Works	3,59,300	2,44,70,125	55,39,486	1,89,30,639	6,03,348	52,818	3,58,665	10,14,831	1,99,45,470

NOTE.—The revenue due to old irrigation and new irrigation under the Cauvery Delta System fixed by the Accountant-General with reference to G.O. No. 763 I., dated 25th March 1936, is shown below:—

	Direct receipts.	Indirect receipts.	Total revenue.
	RS.	RS.	RS.
Old irrigation	37,23,616	1,14,209	38,37,825
New irrigation	15,62,317	47,918	16,10,235
Total	52,85,933	1,62,127	54,48,060

II

Systems.	Net receipts direct and indirect.				Gross indirect receipts.		
	Average for five years 1942–43.	Actuals, 1943–44.	1944–45. Revised estimates.	1944–45. Actuals.	Actuals 1943–44.	1944–45. Revised estimates.	1944–45. Actuals.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	RS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Productive Works.							
1 Godavari Delta system ..	42,46,793	51,36,768	47,66,176	52,44,808	2,30,706	2,28,152	2,30,733
2 Kistna Delta system ..	38,37,845	51,19,821	45,66,714	51,44,081	1,92,210	1,74,389	1,92,210
3 Divi *cum* Kistna East Bank canal.	4,94,516	5,83,399	5,73,034	6,44,942	87,205	87,295	87,205
4 Pennar River Canals system.	5,72,322	6,92,898	6,22,246	6,87,320	73,367	73,367	73,367
5 Arakkankottai channel ..	15,591	20,520	26,079	21,409	428	430	428
6 Tadepalli channel ..	54,892	73,268	87,578	79,489	2,929	3,000	2,929
7 Kalingarayan channel.	29,898	41,491	32,759	46,438	483	483	483
8 Chembarambakkam tank.	22,359	41,686	25,799	47,272	957	957	957
9 Poiney anicut system ..	33,234	96,474	60,269	88,558	5,488	5,488	5,488
10 Cheyyar anicut system ..	38,160	71,532	60,951	75,999	4,735	4,735	4,735
11 Tirukkoyilur anicut system.	44,205	79,695	58,701	78,943	3,369	3,369	3,369
12 Shatiyatope anicut system.	1,18,732	1,51,572	1,46,299	1,61,320	17,031	17,031	17,031
13 Mehamathur anicut system.	15,776	22,071	19,651	22,250	196	196	196
14 Vriddhachalam anicut system.	21,958	32,664	28,530	36,034	339	339	339
15 Lower Coleroon anicut system.	2,94,730	4,66,443	2,90,282	4,76,309	51,538	55,987	51,549
16 Cauvery Delta system ..	6,44,745	19,08,922	11,66,151	19,56,550	1,60,691	1,35,820	1,62,127
17 Nandiyar channel system.	11,595	14,244	14,496	15,717	250	250	250
18 Periyar system	6,60,422	8,66,472	7,64,811	8,77,004	94,863	94,863	94,863
19 Srivaikuntam anicut system.	1,07,096	1,47,936	1,24,195	1,40,605	1,490	1,490	1,490
20 Marudur anicut system.	58,461	89,388	67,942	89,095	279	279	279
21 Cumbum tank	3,342	10,992	1,008	13,160	472	461	472
22 Kattalai scheme ..	68,579	1,56,943	1,57,820	1,56,463	121	121	121
23 Polavaram Island system.	90,899	1,03,731	99,048	1,01,675	..	..	..
24 Cauvery-Mettur Project.	13,46,625	14,82,572	15,28,596	15,60,585	14,485	23,768	23,999
II. Unproductive Works.							
25 Chicacole minor rivers system.	37,169	69,211	69,234	94,945	7,874	7,874	7,874
26 Willingdon Reservoir ..	1,08,432	1,47,145	1,34,191	1,45,304	448	448	448
27 Nagavalli river system.	80,357	1,05,454	1,05,740	1,04,537	21,804	21,860	21,804
28 Muniyeru anicut system.	35,522	48,162	47,761	39,176	62	62	62
29 Jangamaheswarapuram tank.	456	589	458	790	..	..	..
30 Atmakur tank	1,562	2,067	1,529	1,931	..	..	..
31 Dondapad tank ..	2,268	1,416	1,476	2,591	10	10	10
32 Bhavanasi tank ..	4,241	5,447	5,190	5,508	..	..	..
33 Mopad reservoir ..	33,725	42,276	34,708	48,420	5,170	5,170	5,170
34 Hajipuram tank ..	3,373	4,806	3,468	5,281	70	70	70
35 Ponnalur tank	3,303	4,891	4,655	6,942	..	..	..
36 Anamasamudram Biraperu tank.	1,322	539	– 570	504	1	1	1
37 Yerur tank	469	3,280	2,794	3,160	86	86	86
38 Sagileru system ..	1,250	5.302	– 128	– 833	26	26	26
39 Markapur tank	5,465	4,824	4,057	8,573	1	1	1
40 Yellanur tank	2,836	2,941	2,813	2,966	1,104	1,104	1,104
41 Siddhapur tank ..	4,296	3,665	3,040	6,924	..	..	..
42 Nagavaram anicut and supply channel.	2,104	2,596	2,345	3,217	1,017	1,017	1,017
43 Venkatapuram tank ..	1,106	2,277	1,197	3,364	..	..	..
44 Kurnool-Cuddapah canal.	2,47,705	3,15,689	2,81,035	3,08,843	2,723	1,004	2,723
45 Chepad channel ..	37,078	43,542	39,552	44,614	554	554	554
46 Barur tank	16,631	19,074	20,337	19,133	787	787	787
47 Kanniyampalayam anicut.	..	1,751	..	2,698	..	..	..
48 Madras water-supply and irrigation system.	2,061	13,658	7,659	13,808	462	462	462
49 Vallur anicut system ..	– 775	3,657	2,445	4,086	1,074	1,074	1,074
50 Palar anicut system ..	1,09,593	2,62,633	1,61,934	2,58,779	16,852	16,852	16,852
51 Pelandorai anicut system.	64,943	53,305	47,795	58,794	86	86	86
52 Tippayapalem project ..	11,351	4,113	3,800	6,186	..	..	..
53 Panjapatti reservoir project.	..	..	..	..	..	..	..

APPENDIX III.

Statement showing the extent irrigated and the revenue derived under "Minor Works" for fasli 1354 (1944–45).

Districts.	Area irrigated and charged and area irrigated free of charge. First crop.	Second crop.	Total land and irrigation revenue.	Share due to irrigation.	Deduct remissions and deductions.	Net revenue due to irrigation.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Works in charge of the Revenue Department.						
	ACS.	ACS.	RS.	RS.	RS	RS.
Vizagapatam ..	77,170	8,670	2,61,147	1,77,913	21,801	1,56,112
East Godavari ..	64,275	7,547	3,15,728	2,42,146	4,346	2,37,800
West Godavari ..	26,286	1,345	96,141	83,329	1,862	81,467
Kistna	20,996	34	1,21,005	1,03,512	2,345	1,01,167
Guntur	26,609	2,371	1,51,253	1,17,441	4,156	1,13,285
Nellore	81,263	17,087	3,75,587	3,16,030	4,935	3,11,095
Cuddapah	81,181	24,476	3,52,405	3,00,020	29,685	2,70,335
Anantapur	110,007	33,735	5,04,645	4,38,501	91,840	3,46,661
Bellary	24,176	4,813	1,40,895	1,25,476	12,469	1,13,007
Kurnool	39,715	7,440	1,71,111	1,47,620	14,772	1,32,848
Chittoor	109,411	45,273	5,71,072	4,67,524	32,293	4,35,231
Chingleput	177,590	60,358	7,18,595	5,22,073	10,229	5,11,844
North Arcot ..	174,516	70,105	11,02,054	7,98,451	15,370	7,83,081
South Arcot ..	230,281	62,551	13,72,745	9,95,327	16,464	9,78,863
Tanjore	41,172	2,534	1,08,027	81,789	1,444	80,345
Trichinopoly ..	84,590	32,066	4,48,958	3,46,210	2,515	3,43,695
Madura	97,096	31,213	4,95,838	4,09,688	2,439	4,07,249
Ramnad	20,938	10,419	1,36,044	1,15,953	2,598	1,13,355
Tinnevelly	108,720	44,749	5,99,234	5,12,843	10,486	5,02,357
Coimbatore	39,582	12,536	2,25,581	1,91,543	3,654	1,87,889
Salem	89,018	31,080	5,35,066	3,68,870	17,682	3,51,188
Total of Minor Works —Revenue Department.	1,724,592	510,402	88,03,131	68,62,259	3,03,385	65,58,874
Works in charge of the Public Works Department.						
Vizagapatam ..	61,528	7,852	3,02,977	2,07,364	22,119	1,85,245
East Godavari ..	33,871	8,860	2,08,163	1,62,142	1,630	1,60,512
West Godavari ..	21,244	256	91,638	77,868	3,433	74,435
Kistna	1,914	..	10,452	8,996	14	8,982
Guntur	3,524	430	19,432	15,514	89	15,425
Nellore	58,806	10,255	3,49,077	2,93,892	1,760	2,92,132
Cuddapah	28,879	11,007	1,69,593	1,47,618	4,519	1,43,099
Anantapur	37,223	10,355	2,08,822	1,81,168	43,411	1,37,757
Bellary	31,088	7,982	2,44,478	2,18,344	15,305	2,03,039
Kurnool	8,161	1,583	47,530	41,390	1,926	39,464
Chittoor	12,230	5,042	75,269	61,386	4,287	57,099
Chingleput	195,048	75,799	8,70,743	6,35,490	12,381	6,23,109
North Arcot ..	54,060	23,854	3,62,205	2,65,764	8,039	2,57,725
South Arcot ..	86,475	27,032	5,75,879	4,19,189	3,754	4,15,435
Tanjore	14,279	1,119	38,724	29,526	312	29,214
Trichinopoly ..	50,277	30,196	3,79,311	2,89,967	3,752	2,86,215
Madura	44,484	18,222	2,97,662	2,43,924	1,695	2,42,229
Ramnad	14,627	8,528	1,22,187	1,05,032	4,033	1,00,999
Tinnevelly	88,166	52,808	9,34,373	7,87,092	1,487	7,85,605
Coimbatore	36,585	15,594	2,90,984	2,39,261	607	2,38,654
Salem	27,467	10,663	2,01,822	1,38,080	2,996	1,35,084
Total of Minor Works —Public Works Department.	909,936	327,437	58,01,321	45,69,007	1,37,549	44,31,458
Revenue Department.	1,724,592	510,402	88,03,131	68,62,259	3,03,385	65,58,874
Grand total, Minor Works.	2,634,528	837,839	1,46,04,452	1,14,31,266	4,40,934	1,09,90,332

AGENTS FOR THE SALE OF MADRAS GOVERNMENT PUBLICATIONS.

IN INDIA.

NEW BOOK COMPANY, Booksellers, etc., "Kitab Mahal," 188-90, Hornby Road, Bombay.
D. B. TARAPOREVALA SONS & CO., Bombay.
THACKER & CO. (LTD.), Bombay.
N. S. WAGLE, Circulating Agent and Bookseller, No. 6, Tribhuvan Road, Girgaon, Bombay.
THE BOOK COMPANY, Calcutta.
BUTTERWORTH & CO. (LTD.), 6, Hastings Street, Calcutta.
R. CAMBRAY & CO., Calcutta.
LAW BOOK SOCIETY, Publishers and Printers, 65-3, Harrison Road, Calcutta.
THACKER, SPINK & CO., 3, Esplanade East, Calcutta.
K. KRISHNA AYYAR BROTHERS, Booksellers, Publishers, etc., The Round, Trichur (Cochin State).
The Manager, THE HYDERABAD BOOK DEPOT, Hyderabad (Deccan).
The Secretary, OSMANIA UNIVERSITY STUDENTS' CO-OPERATIVE BOOK DEPOT, Lallaguda P.O., Hyderabad (Deccan).
The Director, "THE FRENCH INDIA GAZETTE," Karaikal.
M. R. APPADURAI, Bookseller, 57-A, Anderson Street, Esplanade, Madras.
THE CHRISTIAN LITERATURE SOCIETY FOR INDIA, Post Box No. 501, Park Town, Madras.
CITY BOOK COMPANY, Post Box No. 283, Madras.
C. COOMARASWAMI NAYUDU AND SONS, 27 and 35, Chinnathambi Street, Madras.
HIGGINBOTHAMS (LTD.), Mount Road, Madras.
THE SWADESAMITRAN (LTD.), Mount Road, Madras.
MACMILLAN & CO. (LTD.), Mount Road, Madras.
G. A. NATESAN & CO., Madras.
V. RAMASWAMI SASTRULU & SONS, 292, Esplanade, Madras.
P. VARADACHARI & CO., Booksellers, 8, Lingha Chetti Street, Madras.
Agent, THE SOUTH INDIA SAIVA-SIDDHANTA WORKS PUBLISHING SOCIETY, LTD., 6, Coral Merchant Street, Madras.
VENKATRAMA & CO., Educational Publishers and Booksellers, Esplanade, Georgetown, Madras.
THE LITTLE FLOWER COMPANY, Educational Publishers and Booksellers, 56, Thambu Chetti Street, Georgetown, Madras, E.
V. PERUMALL CHETTY AND SONS, 5, Stringers Street, Georgetown, Madras.
MOHAMED ALI HUSSAIN, Educational Publisher and Proprietor, "Madina Press," Triplicane P.O., Madras.
THE DECCAN PUBLISHING HOUSE, Huzur Road, Calicut, Madras.
THE EDUCATIONAL SUPPLIES CO., 142-A, Ponnurangam Street, R.S. Puram Coimbatore (Madras).
Secretary, RAJAJI STATIONERY DEPOT, Devakottai (Madras).
SRINIVAS & CO., Town High School Road, Kumbakonam (Madras).
E. M. GOPALAKRISHNA KONE, Pudumantapam, Madura (Madras).
K. BHOJA RAO & CO., Booksellers, Kodialbail, Mangalore (Madras).
M. SESHACHALAM & CO., Proprietors, The Hindu Press, Masulipatam (Madras).
B. VENKATARAMAN, Correspondent, Permanent Fund Buildings, Neela South Street, Negapatam (Madras).
D. SRI KRISHNAMURTI, Editor of "Grama Paripalana," Ongole (Madras).
THE HINDUSTAN PUBLISHING CO., LTD., Rajahmundry (Madras).
THE MODERN STORES, Salem (Madras).
The Proprietor, THE HOUSE OF KNOWLEDGE, Booksellers and Publishers, Palliagraharam P.O., Tanjore (Madras).
SIVAGAMI PUBLISHING HOUSE, Booksellers and Publishers, Srivaikuntam, Tinnevelly (Madras).
S. KRISHNASWAMI & CO., Teppakulam Post, Trichinopoly Fort (Madras).
L. VAIDYANATHA AYYAR, Law Bookseller, Teppakulam P.O., Trichinopoly (Madras).
A. VENKATASUBBAN, Law Bookseller, Vellore (Madras).
BHAWNANI & SONS, Booksellers, etc., Connaught Place, New Delhi.
The Manager, THE INTERNATIONAL BOOK SERVICE, Booksellers, Publishers, News Agents and Stationers, Poona 4.
P. N. SWAMINATHA SIVAN & CO., Commission Agents, Booksellers, etc., Pudukkottai State. (Branches also at Karaikudi, Devakottai and Trichinopoly.)
The Proprietor, THE PUNJAB SANSKRIT BOOK DEPOT, Saidmitha Street, Lahore (Punjab).
MOHANLAL DOSSABHAI SHAH, Books Agent, etc., Rajkot.
B. S. MATHUR & CO., Chatur Vilas, Paota Civil Lines, Jodhpur (Rajputana).
THE BOOKLOVERS' RESORT, Booksellers and News Agents, Taikad, Trivandrum.

NOTICE.

Official publications may be obtained in the United Kingdom either direct from the office of the High Commissioner for India, India House, Aldwych, London, W.C. 2, or through any bookseller.